

EVALUATION OF
CHILD FEEDING PROGRAMS
IN THE
DEVELOPING COUNTRIES

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INU db
ISN = 10946
P473

Evaluation of child feeding programs in the developing countries, phase III report; general research design. Checchi and Company.

Evaluation of child feeding programs in the developing countries, phase III report; general research design. Richard A. Ellis and Diane M. Cleemput. 1972. 1 v.

Includes bibliographical references. A report prepared for the American School Food Service Association and the A.I.D. Office of Nutrition.

1. Nutrition planning.
2. Children - Nutrition.

Card 2

613.2
E47a

Checchi and Company.

Evaluation of child feeding programs in the developing countries, phase III report ... 1972

3. School lunches.
 4. Nutrition policy.
 5. Program evaluation - Children - Nutrition.
 6. Program evaluation - Nutrition planning.
- I. Ellis, Richard A. II. Cleemput, Diane M. III. Title. IV. Child feeding programs in the developing countries ...

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EVALUATION OF CHILD FEEDING PROGRAMS
IN THE DEVELOPING COUNTRIES

Phase III Report

GENERAL RESEARCH DESIGN

A Report Prepared for the
American School Food Service Association
and for the
Office of Nutrition of the
Agency for International Development

Richard A. Ellis
Diane M. Cleemput

October, 1972

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October 13, 1972

Dr. John Perryman, Executive Director
American School Food Service Association
4101 East Iliff Avenue
Denver, Colorado 80222

Dear Dr. Perryman:

Enclosed is Checchi and Company's final report on Phase III of the ASFSA project to design and conduct evaluations of child feeding programs in developing nations, undertaken on behalf of the Office of Nutrition of the Agency for International Development. Our report provides a comprehensive research design for these studies, including all forms and instrumentation, sampling plans, data handling instructions, and analytic procedures.

Of necessity, this report is a technical document. Some familiarity with current social research methods is assumed. At the same time, we are aware that many kinds of professionals--program administrators, medical people, educators, and others--are concerned with the topic of evaluating nutrition programs, and so we have made an effort to produce a report which can be of use to this larger audience.

The report may be useful as a guide for contractors in developing countries who are engaged to carry out the field studies which are called for in the design. If desired, our material on overall study costs to AID may be deleted from the report without disturbing the rest of the text; the cost estimates have been attached as a final appendix.

Many persons have given generously of their time to provide help and advice for this effort. We must single out for special thanks Mrs. Carol H. Weiss and Dr. William A. Glaser of the Bureau of Applied Social Research, Columbia University, who helped us review the design. Dr. John I. McKigney and his colleagues at the National Institutes of Health provided continuing help in obtaining reference materials and referring us to experts in the field of nutrition. Scholars at several universities, notably Drs. Cecile DeSweemer of Johns Hopkins and Robert Reed of Harvard, shared their experience with us and made numerous valuable suggestions for the design. And

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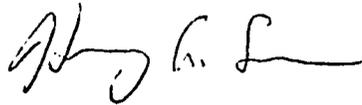
Dr. John Perryman
Page 2
October 13, 1972

Mr. William C. Parra of AID's Office of Nutrition patiently fielded our numerous inquiries about the Agency's plans for these evaluations and also provided numerous referrals to experts in the field. The full responsibility for the report remains, of course, with Checchi and Company.

Richard A. Ellis headed the Checchi design team. He wrote much of this report, and was responsible for the overall research scheme and for the detailed analytic planning. Diane M. Cleemput assembled the data requirements for the studies and translated these into polished questionnaires and interview schedules. Patricia S. McPhelim and Jerry E. Miller provided substantive advice based on their field experience in Africa and Latin America, and helped in the assembly of data requirements, and Pirie M. Gall helped to review the final text.

We think that you will find the completed research design to be a substantial improvement over previous studies in this field. We are prepared to provide any additional assistance which ASFSA or AID may require in this project, and we appreciate the opportunity we have had to make this current contribution.

Yours truly,



Harvey A. Lerner
Vice President and Director
Consulting Division

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EVALUATION OF CHILD FEEDING PROGRAMS
IN THE DEVELOPING COUNTRIES

Phase III Report

GENERAL RESEARCH DESIGN



I. INTRODUCTION TO THE RESEARCH DESIGN

Socrates. Shall I propose that we look for examples of art and want of art, according to our notions of them, in the speech of Lysias which you have in your hand, and in my own speech?

Phaedrus. Nothing could be better; and indeed I think that our previous argument has been too abstract and wanting in illustration.

--Plato, Phaedrus¹

This report presents a comprehensive plan for carrying out evaluation research on child feeding programs in developing nations. Issues of definition, sampling, instrumentation, data processing, and analysis are treated in sufficient detail to allow studies to proceed with a minimum of additional assistance.

The design study reported here is part of a larger project dealing with the evaluation of child feeding activities. The Office of Nutrition of the Agency for International Development is the sponsor for this work, and the American School Food Service Association (ASFSA) has served as prime contractor. Phase I of the project is a world-wide literature search and has been completed by ASFSA. Phase II is an international survey of

¹Originally used as a classic illustration of the rationale for research by Bernard Berelson and Gary Steiner in their Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, 1964).

existing child feeding programs and is nearing completion by ASFSA. The evaluation research design, covered in this report, constitutes Phase III. Phase IV will include the selection of several developing nations for implementation of the evaluation design, and Phase V will include a global analysis of data obtained in these national studies. All of this work is to be completed by June 30, 1973.

This report is organized into five sections. The introduction, Section I, provides some background commentary about the conceptual issues of the evaluation, and then presents a summary overview of the entire design. The remaining sections each take up particular aspects of the research plan in detail. In Section II, preparation for the field work is reviewed, including tasks which must be performed by AID's U.S. contractors and work which will be undertaken by country contractors in each nation participating in the study. Section II also outlines a series of staging visits in which U.S. study team personnel work together with country contractors in order to review final adaptations of the design and its application in specific national settings.

In Section III, the field work for the evaluations is treated. All data instruments are reviewed, and suggestions are provided on some special problems which field study teams will face. Section IV provides a plan for organizing and tabulating the data obtained through the field studies. Section V takes up the analysis of these data, in order to address the evaluation issues posed by AID. The report also includes several appendices, including the data forms and schedules, and a bibliography of selected references.

A. THE EVALUATION ISSUES

The Urban Institute has classed program evaluations under the headings of impact studies which assess the effectiveness of national programs in meeting their objectives, and strategy studies which assess the relative effectiveness of different approaches for meeting these objectives.¹ The present evaluation combines elements of both approaches, but it is not an impact study, if by that term we denote evaluations which draw a random sample of programs and attempt to size up how well things are working on a global, overall basis. Nor is it a pure strategy study, in the sense that most of the emphasis would be on a comparison of different program approaches. What we want to assess is the realism of policy assumptions. AID and other international organizations are devoting large amounts of money and manpower to the support of programs which deliver food commodities to children. These outlays are justified on four major grounds. Stated as hypotheses, the claims are that:

1. Feeding programs improve the health of children.
2. Feeding programs are a good vehicle for teaching nutrition education and improving people's nutrition behavior.
3. Feeding programs improve school attendance.
4. Feeding programs improve school performance.

Evidence to support or deny these claims is skimpy, to say the least. Some impressionistic data is available, but for the most

¹ Joseph S. Wholey et. al., Federal Evaluation Policy (Washington: The Urban Institute, 1970), pp. 24-27.

part assessments of the programs have had to make educated guesses about the viability of these rationales, concentrating instead on administrative and resource policy issues.¹ Controlled laboratory studies have been conducted which support the claim of potential program effects, but transferring these results to operating conditions in the field requires that we make heroic assumptions about the comparability of the two settings.

What is sought here is an evaluation system which will provide reliable evidence about particular child feeding programs and the degree to which they actually meet the claims listed above. Once an evaluation approach exists which will meet these needs, then national and international program impact and strategy testing can begin, drawing on a pool of accumulated knowledge built up through repeated applications of the basic assessment model.

Formidable methodological problems must be overcome in order to execute a defensible, convincing evaluation of child feeding programs. The ideal approach would be to carry out a longitudinal, experimental study in a natural field setting. This is not feasible at this time from either a financial or a timetable point of view. For one thing, results from a longitudinal study would not be available for several years. The proposed design depends, instead, on an approximation of the experimental approach, using retrospective data, cross-sectional comparisons, post hoc control groups, and a system of checks and controls on the quality of the work.

¹For example, see Richard D. Abbott, Richard A. Ellis, Pirie M. Gall, Gerald M. Schmaedick, and Patricia S. McPhelim, Food for Peace: An Evaluation of PL 480 Title II (Washington: Checchi and Company, 1972).

Each of the four basic issues for the study also raises its own set of conceptual and methodological dilemmas. For measuring feeding program effects on the health and growth of children, a number of common health indicators are cited in the literature, from biochemical stool analyses to weight and height records. Both AID's advisors¹ and authors of this study design have concluded that the height/weight data must be the major health measure for this study, because of a need for practicality in the field. Height and weight are both dependent on age, and in order to carry out cross-sectional comparisons of children of varying ages, it will be necessary to convert the data to deviation scores from a standard health criterion such as the Harvard weight charts. Given the cross-cultural nature of the study, genetic factors may be at work which would affect simple age comparisons, and for this reason weight-for-height is to be assessed as well as weight-for-age. Other factors which must be taken into account in making health effects inferences will include the presence or absence in an area of infectious disease control programs, knowledge of local nutrient intake, and seasonality of the study vis-a-vis harvest or "dry" periods.

With respect to nutrition education effects, feeding programs may affect knowledge and attitudes about food and health without going on to affect actual behavior. Both attitudes and behavior must be measured, because programs may be successful in transmitting nutrition information and in changing dietary beliefs, but fail to

¹See the untitled report issued by the IUNS ad hoc working group on the evaluation of child feeding, at the School of Public Health, UCLA, April 26-27, 1972 (available from the Office of Nutrition, AID).

have effects because of an unavailability of better foods or health services. It is also possible that food program participants may provide "correct" responses to questions on food attitudes and knowledge but fail to put this knowledge to work, even when the needed resources are available, due to long-standing cultural habits or values (such as food taboos). To tap attitudes and knowledge, existing questionnaire scales are available; to obtain data on behavior, 24-hour recall of foods prepared and eaten, along with other inquiries about actual food acquisition and preparation habits, can be used. To reduce the possibility of spurious conclusions, the analysis must also include knowledge of local food availabilities, cultural and dietary customs, seasonal variations, and the format and approach of the nutrition education activities themselves.

Testing for effects on school attendance will depend heavily on the amount and quality of enrollment and absenteeism records available in the schools. A thorough approach must treat the "drawing power" of feeding programs--their ability to increase enrollment; the effect of programs on daily attendance, for those who do enroll; and measures of related phenomena like absenteeism and the reasons for absenteeism, dropping out, and so on. Additional complexities will be introduced when schools share facilities or operate on more than one shift. Before/after comparisons for judging attendance effects will require that schools selected for the study be ones which have instituted feeding programs in relatively recent years. Other factors which must be controlled include changes in school districts, staffing, and plants; doctoring of enrollment figures, which are often used to determine school

budgets; and changes in basic population parameters. From birth rate data alone, we would expect that schools might experience enrollment increases whether they have feeding programs or not.

Finally, assessing effects on school performance demands the use of some kind of standardized test of achievement. If reliable IQ data is available it should be used as a control on achievement, along with measures of the socio-economic status of students. More subjective measures will be very weak indeed. Grades of students are likely to be "curved" within classes and thus of little use in a comparison between schools. Subjective opinions of teachers on the effects of program are prone to the same difficulty. Many developing countries now do have minimal performance standards for each grade, supported in varying degrees by testing programs, so some achievement data may be available. A wide range of tests can be equated and placed on common scales if norms, means, and standard deviations for the tests can be made available. Alternatively, a standardized test may be administered by the field teams. At least one fairly widely used device is available which is relatively language free and easy to administer: the second (1947) form of the Raven Colored Progressive Matrices,¹ designed for use with children aged 5-11 and which if administered with time limits seem to reflect school achievement effects as well as simple native ability.

¹ Available at quite moderate cost from The Psychological Corporation in New York. Discussion of the Raven tests will be found in most standard texts on testing, such as Lee J. Cronbach, Essentials of Psychological Testing (New York: Harper and Row, 1960), pp. 215-218, or Anne Anastasi, Psychological Testing (New York: Macmillan, 1961), pp. 261-263, or in any recent edition of the Mental Measurements Yearbook. We refer here to the 1947 form of this test, suitable for children aged 5-11.

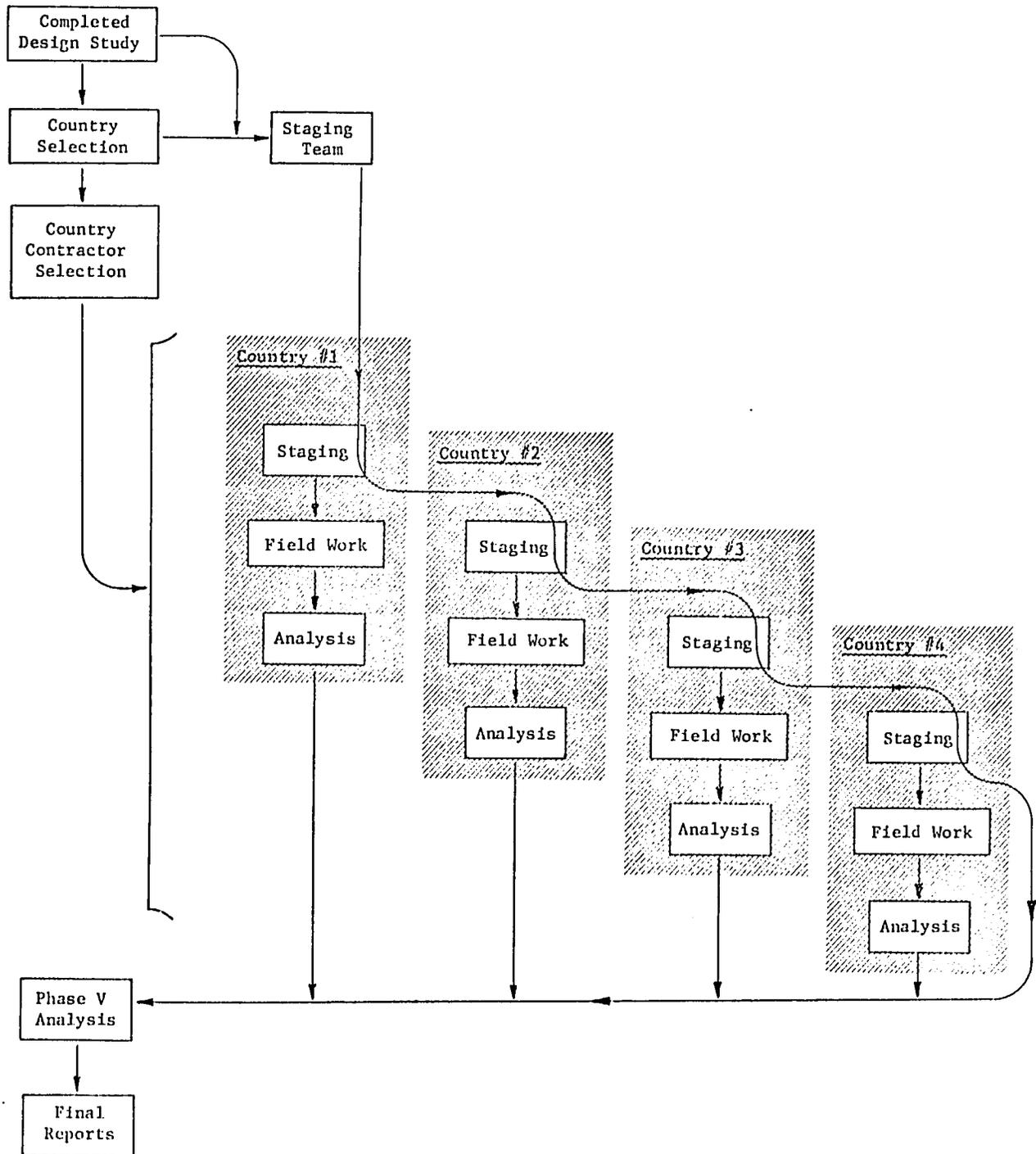
B. OVERVIEW OF THE EVALUATION DESIGN

The preceding paragraphs provide a general introduction to the purposes of this evaluation and the issues which are to be addressed. We now turn to a brief overview of the research design itself. The Agency for International Development has planned from the beginning for a decentralized approach, in which a common study plan would be applied in three or four countries by local contractors. Data obtained would then be analyzed at both national and international levels. The design study builds on this framework, specifying the nature of the work to be undertaken in each country, the forms and other tools which are to be used to organize the data, and the particular analytic operations which are to be carried out in order to answer the questions which AID has posed.

Looking at the project from a chronological perspective, the design study assumes that details of forms and information schedules may be subjected to some revision and editing during the period when selection of countries and local country contractors is underway. Any revisions would lead to some modification of the final version of this design study package, before it is issued to the contractors finally chosen to implement the evaluation. After country contractors are selected, a period of about one month is assumed for the work of field team recruitment, initial document translation and pre-testing, and obtaining preliminary site selection information. Staging visits (see Exhibit 1) then take place, in which a U.S. study team works in cooperation with country contractors to meet with host government officials, review translations, select final study sites, review field team selection and conduct field staff training, and review the overall design itself.

EXHIBIT 1

Overview of Proposed Research Design: Global Coordination Efforts*

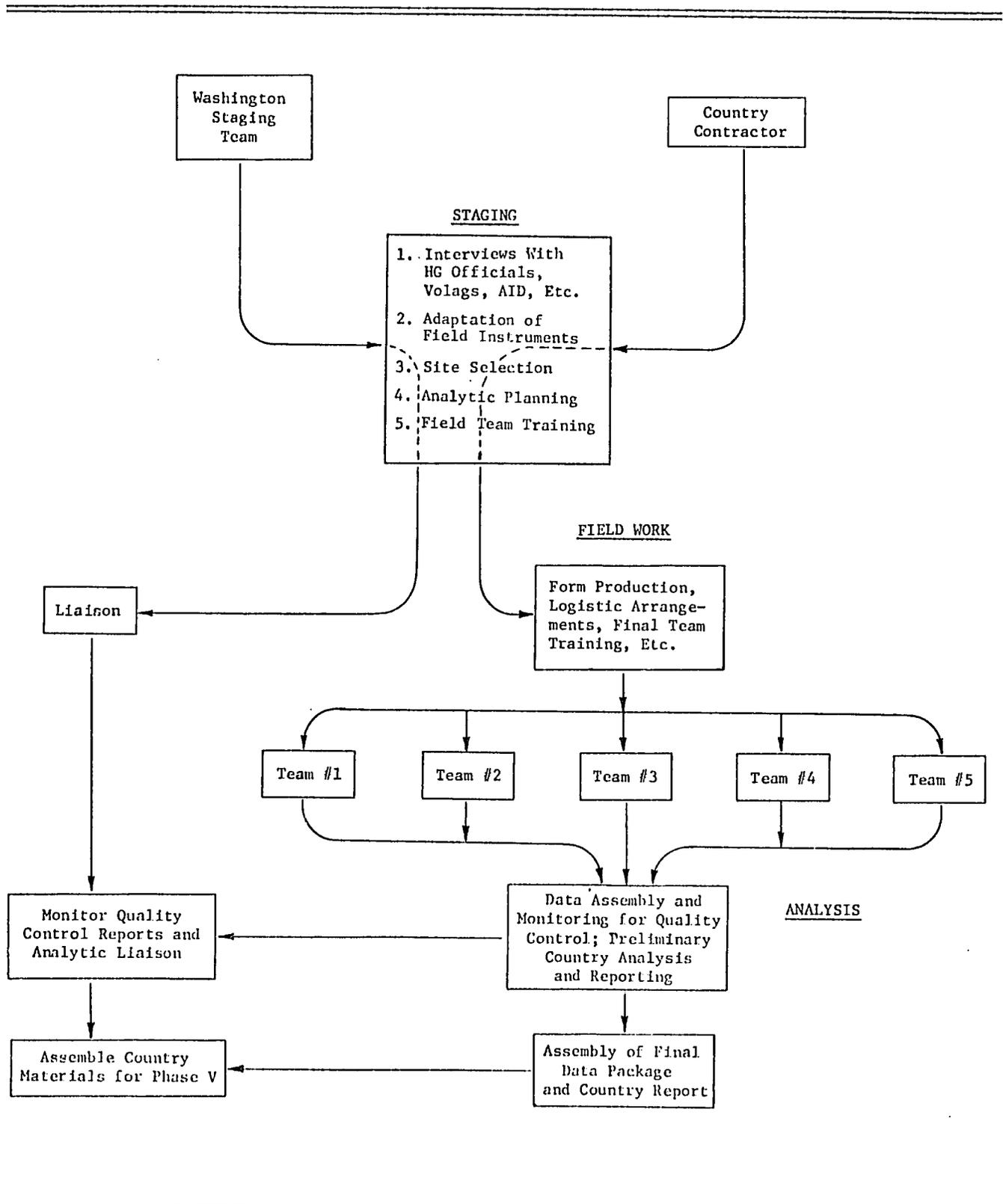


* Note: a four-country effort is depicted here. Restricting the evaluation to three countries will not substantially alter the design.

Within each nation, we assume that five study sites will be selected, and that assessment of all of the study issues will take place in every site. These sites are not randomly selected. Rather, they are deliberately chosen to maximize opportunities to test our evaluation procedures. As noted above, this study cannot, by itself, yield a global assessment of the impact of feeding programs; instead, it can help create a standardized approach so that further studies can build the data base which will be needed for overall impact judgments. The specification of five sites per country (rather than some other number) is not arbitrary but reflects, instead, our judgment about how much field work is possible in this evaluation, given the issues at stake and the timing and financial constraints which apply. Five sites per country will ensure that at least 15 separate case studies are available for the final global analysis (assuming only a three-nation evaluation). Each site must include pre-school feeding programs and school feeding programs. AID has assumed that the pre-school programs will be limited to mother-child health (MCH) operations, excluding less common approaches like day care feeding and orphanages from the scope of the present review. Each site will have, ideally, a school with a well-run feeding program and a school which has never had feeding; an MCH center and a compound which has never been served by MCH; and relatively stable demographic, agricultural, and health conditions over the past few years. These are very restrictive demands. Our experience with these programs in developing nations suggests that they can be met, however. A site may be a single urban area, a set of villages in a rural region, or some combination of these; within a site, we seek homogeneity of the population, but between sites

EXHIBIT 2

Overview of Proposed Research Design: Country Coordination Plans



heterogeneity is to be encouraged. That is, the five sites within any one country may vary greatly in locales, urban/rural distinctions, food staple areas, tribal or ethnic makeup, and so on.

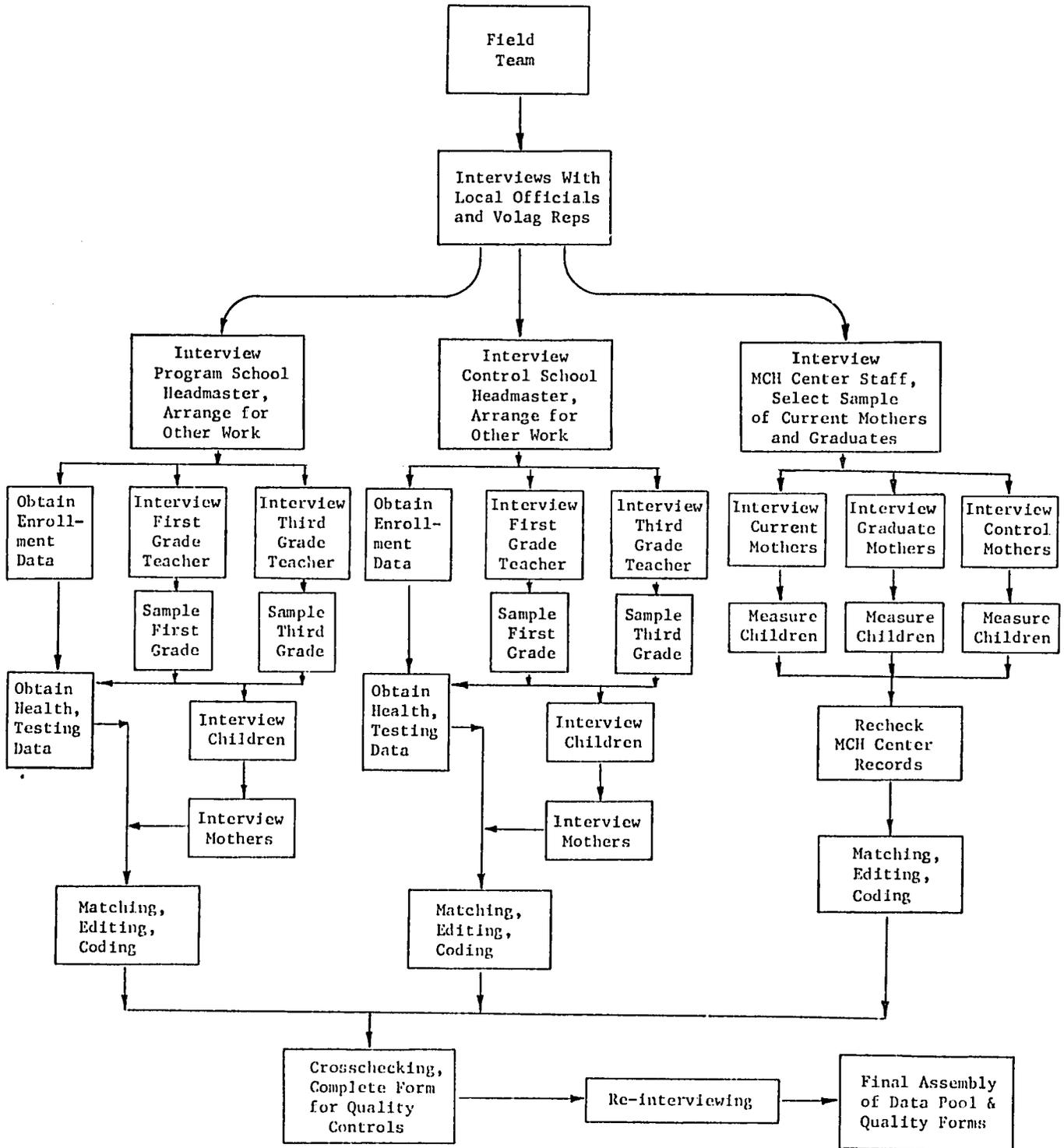
Exhibit 2 shows the basic relationship between country contractors and these site studies.

Exhibit 3 treats the actual field activities in a particular study site. The team will begin its work with information already in hand, obtained in interviews with national government, voluntary agency, AID, and other officials, about the nature of a program in a specific locale. Its first task on arrival at the site is to contact local counterparts of these officials, to verify and augment baseline information obtained on a national level. Other local background information will include a check on marketing practices to see what foods are being purchased in the area, obtaining data on food practices and customs, checks on local program costs, and so on. With these data in hand, the field team will begin to conduct detailed interviews and inquiries in the fed school--hereafter referred to as a program school--and in the non-fed school--hereafter called a control school. At the same time, an equally detailed set of inquiries must begin for mothers associated with MCH programs.

In the schools, the study stresses two kinds of data: samples of first and third grade children, to obtain information on those with relatively little program exposure and those with somewhat more exposure; and comparison of program and control school children. The mothers of all the school children in the sample are to be interviewed. Test score data is to be picked up for every pupil in the study, and health data for children is to be obtained from measures taken by the team itself. Enrollment information is taken mainly from school records, augmented and checked by similar data from the sample of children.

EXHIBIT 3

Overview of Proposed Research Design: Community-Level Field Activities



For the pre-school programs, the design is somewhat different. The MCH population is treated in terms of total program exposure, from zero for mothers never in the program to many months of exposure for current enrollees or graduates of the operation. Again, health data on the children of these mothers is picked up by direct measures taken by the team, while effects of nutrition education efforts are tracked through interviews conducted in the home.

In summary, the field team must complete a series of background talks and must obtain specified baseline data for the study site in general; it must obtain detailed enrollment data at two schools; it must conduct structured interviews with MCH personnel, school headmasters, and teachers; it must sample, interview, and measure a total of 80 children (20 first graders and 20 third graders, in each of two schools); and it must make a total of about 150 home visits, measuring young children in 70 of these homes. The major constraint on field task completion will be the home visits; assuming that they can be made on the average of four to five visits per man-day, the field team will require nine to ten man-weeks at each site. A more detailed breakdown of these interviewing loads is presented in Exhibit 4.

The field team will have other duties. All team members will be expected to contribute to a team diary in which each day's work will be logged. The diary will also include data obtained by direct observation, team members' accounts of difficulties experienced in their work, and other information. Certain variables required for the study must be derived from others, and the design provides for coding of these data elements by either the field team or country contractor analysts. Other data elements may require uniform

EXHIBIT 4

Overview of Proposed Research Design: Structure of the Data Base

Respondent Type	Number Interviewed/Measured, at...			
	Each Site	Nation	Global Levels:	
			Three Countries	Four Countries
National Officials (HG, Volag, etc.)	--	10	30	40
Local Officials	3	15	45	60
Program School:				
Headmasters	1	5	15	20
Teachers	2	10	30	40
Students	40	200	600	800
Mothers	40	200	600	800
Control School:				
Headmasters	1	5	15	20
Teachers	2	10	30	40
Students	40	200	600	800
Mothers	40	200	600	800
MCH Administrators	1	5	15	20
Current MCH Mothers	30	150	450	600
Children*	60	300	900	1,200
Former MCH Mothers	20	100	300	400
Children*	40	200	600	800
Non-MCH Mothers	20	100	300	400
Children*	40	200	600	800
TOTALS	380	1,910	5,730	7,640

* Measurements only.

coding supervised at a country-wide or even at an international level; again, the study design provides for this while also permitting most information to be coded as it is taken through the use of structured interview schedules.

Analysis of the data is planned at several levels of aggregation. The basic analytic unit in the evaluation will be a mini-study of program effects within each particular site. These analyses are to be conducted by the country contractors, following a predetermined approach provided in Section V of this report. The objective is to make available a series of matched site analyses which can be combined on a country-wide and on an international basis.

A requirement of the study is that each country make, at minimum, a five-case site-by-site comparison of the results which combines both quantitative site study data and a thorough impressionistic analysis (drawing on field team diaries).

At the international level, a 15-site comparison is planned. In addition, the design calls for the introduction of a comprehensive statistical study of the entire aggregated data pool. This will require a relatively complex, computer-based treatment using parametric statistics.

A large number of checks, controls, safeguards, and comparisons are built into the design. In most cases, information is cross-checked from at least two sources. Further safeguards are provided by a quality control system, using a combination of diary reports and required data analysis, and by provision for review of field team work by country contractors and review of country contractor work by USAID contract monitors and by AID's U.S. contractors. Yet formidable

problems still confront the design. For example, even slight variations in procedure in taking height and weight measures may introduce variations in the data which are due not to real differences in children but to measurement error. Field instruments may require on-the-spot translations to local dialects, introducing unforeseen variations in questions wording and meaning.

Even under the most favorable research conditions, prior evaluation attempts in this field have not been notably successful. Our hope for improvement in this state of affairs rests on the production of a design which is better than those which have been tried in the past. We think that this is a reasonable goal, because the prior studies provide a jumping-off point, and because a virtual revolution has taken place in the last few years in social science research methods, so that it is now possible to design studies with somewhat more analytic potential than has been the case in the past. Even so, this is a risky enterprise. Inadequate thinking or inadequate execution will render the work useless, and even if everything goes well, it still may be that the complexities of the world of feeding programs will overwhelm the evaluation and leave us with little in the way of tangible conclusions. The degree to which this outcome is avoided will be a measure of the success or failure of this project and of this research design.

II. PREPARING FOR THE FIELD WORK

A mighty maze! but not
without a plan.

- Alexander Pope

This section describes the activities which need to be carried out in preparation for field data collection, including work to be performed by AID's U.S. contractors prior to the staging visits, details of the staging visits themselves, and preparatory activities of the country contractor's and his field teams before and after the staging. Each of these activities are discussed below.

A. PRE-STAGING ACTIVITIES: WASHINGTON

1. Final Review of the Study Design

Prior to the staging visits, final reviews of this study design will take place. Before country contractors begin their work, all modifications of the documents should be completed so that uniform copies of the detailed design study can be made available. The design requires some additional work prior to issuing the plan. Specifically, the availability of achievement test data in participating countries must be determined and, if such data is not available, AID must consider whether it wishes to arrange for tests to be administered by field teams; and a set of secondary analyses of the Harvard height/weight data must be carried out to generate some formulae needed in the field. Other modifications of the field instruments and analytic plans may be necessary. AID may also wish

to consider the inclusion of additional data items or site selection criteria so that the study is tailored to the interests of USAID missions in the countries selected for study.

2. Selection of Country Contractors

AID, through its experience in contracting for research abroad, is very well equipped to make the selection of organizations to carry out the field studies for these evaluations. We would add only some technical notes on particular kinds of research capabilities which the design demands. Survey research expertise is a must. The contractor must be familiar with the problems of large-scale interviewing and data analysis undertakings. He must possess, or be able to acquire for the study, a relatively large field staff with the ability to administer structured questionnaires in local dialects. As many as 15 field personnel may be needed, since timing requires that sites be investigated simultaneously. The staff must be able to deal effectively with children as well as with mothers and with officials in schools, government agencies, health centers, and elsewhere.

The staff should have professional training in interviewing and field research techniques. Additional field team training is anticipated in the staging visits. Certain tasks of the study call for control not only of interview bias but of other sources of error more commonly encountered in pure medical research. For example, the field personnel must be trained to take height and weight measures in a consistent and reliable way. It must have access to nutritional expertise.

On the analytic end, the country contractor should have at its disposal senior study staff with proven statistical skills and writing ability. Sensitivity to translation problems is a must. Data

processing demands have deliberately been kept to a minimum; contractors should not need access to computers. This last point is crucial. The contractor must be unusually well organized and efficient in his use of time in order to successfully adhere to the study deadlines imposed by AID.

All in all, we would expect that the best basis for assessing potential contractors will be to take a look at their previous performance, in terms both of report contents and in terms of adherence to time schedules and budgets. Note that all field work must be completed by the end of March 1973, and all other country contractor work must be completed by the end of April 1973.

3. Preparation of Staging Visits and Selection of Staging Team

Prior to carrying out the staging visits, the staging team must be selected. Based on the list of the staging visit tasks in subsection C below, a three-person technical team will be needed in addition to other possible AID representation, in order for all staging tasks to be completed in a one-week time period. Visits of longer duration have been considered and rejected. A total of 15 man-days seems minimal to ensure adequate coverage of all tasks. To use a 2-man team requires 8-day visits and will add at least a week's delay prior to field work, even in a three-country study. We feel this is an unacceptable risk given the overall demands and extremely tight time schedule of the project as a whole. Preliminary criteria for selection of staging team members is as follows:

- Team Member #1:
U.S. Contractor
- A senior survey researcher with overseas experience, who can serve as team leader in talks with government officials and as supervisor over all staging visit activities, who has a thorough knowledge of all phases of the research design, and who can make decisions regarding major modifications of the research design.
- Team Member #2:
U.S. Contractor
- A survey researcher who has a thorough knowledge of the technical requirements of the research design, a particular knowledge of the construction of the field instruments and the relationship between data inputs and analytic requirements, who can supervise instrument adaptation and field team training.
- Team Member #3:
U.S. Contractor
or AID Representative
- A researcher with experience in child feeding programs overseas and with a thorough understanding of the research design, who can serve as team representative in talks with voluntary agencies and host government program personnel to guide the site selection process.
- Team Member #4:
AID Representative
(optional)
- A representative of AID/W, to provide representation in talks with government officials, voluntary agencies, and USAID staff.
- Team Member #5:
U.S. Contractor
(optional)
- A researcher with general understanding of the research design, knowledge of educational testing, and knowledge of other aspects of education systems in underdeveloped countries, who can provide additional expertise on instrument adaptation and site selection.

Each staging team role has been assigned specific staging visit tasks, and will be responsible for the preparation of discussions, reviews, and training procedures which will be required by his

assigned tasks. For example, checklists will need to be made of modification possibilities for particular field instruments, analytic requirements, and baseline data; AID "logical framework" program summaries will be prepared by the site selection specialist in the field and will become an input to the eventual final report. Specific selections will be made of host government officials, voluntary agencies, and donor programs to be contacted. The scheduling of staging tasks will be coordinated by the team leader.

AID and U.S. contractors will then contact each country contractor regarding staging visit scheduling. These visits must be timed to allow for national or religious holidays or other country activities which could delay staging activities. The U.S. contractors will also provide any additional instructions and recommendations needed beyond those in this report for each country contractor's pre-staging activities, including setting up appointments with government and food program officials, criteria for selecting field team staff, instructions on translating and pre-testing of field instruments, instructions on initial data collection on possible study sites, and preliminary acquisition of field team materials and other supplies.

The USAID mission in each country will be the primary coordinator for all country contractor activities, including staging visit scheduling and initial suggestions, and other inputs on site selection and instrument adaptation to country needs.

B. PRE-STAGING ACTIVITIES: COUNTRY CONTRACTORS

Approximately one month prior to the staging visits, country contractors will begin preparations for the staging visits and for

the field work, based on their own initial understanding of the research design and on special instructions from AID and its U. S. contractors. It is assumed that copies of this report will be available for country contractors' use by this time. These preparations will include the following tasks.

1. Selection of Field Team Members

Five field teams will be selected by the country contractors for each country. Teams will be composed of a sufficient number of team members to handle approximately nine to ten man-weeks of work in three to five elapsed weeks. It is desirable that each field team include persons with the following kinds of capabilities:

- A senior person who can serve as team leader in talks with local government officials, headmasters, and so on. This person's responsibilities would include quality control of the entire field site operation, and decision-making responsibilities for modifications and clarifications of research needs once the team is in the field.
- A person who is experienced in public health home visiting and who has conducted home interviews and/or visits with persons comparable to program recipients. This person should be fluent in local dialects.
- A person who has experience working with children and who is at ease around them, and who has the requisite patience and friendly attitude needed to conduct interviews with first and third grade students. This person should also be fluent in local dialects.

These kinds of capabilities, ideally, will be present in all team members. In our experience, they can be obtained, especially if country contractors are willing to augment their staffs for this study to include counterpart personnel attached to voluntary

agencies or similar personnel attached to government health or education ministries. It may be possible in such cases that arrangements might be made to make such personnel available without cost to the study. The field team leader, at a minimum, must be a direct representative of the country contractor. Prior to staging, all field team staff must be selected and familiarized with the evaluation design and its requirements for field operations.

2. Translation and Pre-testing of Field Instruments

Preliminary translations of field instruments will take place prior to the staging visits, with final translation review and approval made during the staging visits. Following the translations, each data schedule must be pre-tested to ensure that nuances between the translated and original versions do not render any data items useless for analytic purposes. The data schedules should be tested on at least two representative school headmasters and teachers, at least five school children, three mothers of school children, at least two MCH administrators, and five mothers who are MCH enrollees. The results of the pre-test will be reviewed and data schedule modifications made, if necessary, during the staging visits. Translated master copies of all data forms and schedules for reproduction should be prepared in advance of staging, so that only final revisions need to be made before going into production of the forms for field use.

3. Initial Data Collection on Study Sites

Country contractors will begin the collection of data on possible study sites, checking into the following types of information:

- Baseline information such as urban/rural locale, population size, food staples, tribal/ethnicity, historical factors such as recent famines or floods, and so forth, to ensure that experimental and control schools and

to ensure that experimental and control schools and communities are available within each site and that sites or other experiences which would distort comparisons over time. For example, we should not choose as a site a locale subjected to major famines in recent years, such that emergency food aid was needed.

The availability of basic school data to ensure that adequate enrollment, attendance, and scholastic test records exist, and that school shift arrangements and school district boundaries have been stable for several years.

Basic feeding program information, such as which sites are served by feeding programs and which are not. Initial visits with the USAID mission and with voluntary agencies will be necessary.

Country contractors will compile this preliminary data and make initial recommendations on study sites. They will also be asked to draw on their own knowledge of their country to produce draft summary background materials for review by the staging team (see Subsection C-3, below).

4. Staging Visit Appointments

Country contractors, working with local USAID representatives, will be responsible for setting up key appointments with host government officials and with representatives of voluntary agencies and donor programs, for the staging visits. Appointments must be made to fit as well as possible with the staging visit scheduling provided below.

C. STAGING VISITS

The purpose of the staging visits is to ensure that field work and country contractor analysis is conducted in conformance with the design requirements, at a high level of quality, and uniformly throughout the global evaluation. The staging team, composed of representatives of the U. S. contractors and of AID/W, will have

knowledge of the technical requirements of the research design. As unforeseen detailed problems are raised, the team can adjust the design while ensuring comparability from country to country in instrument adaptation, site selection, and field team data collection procedures. Thus, it is crucial that a single staging team, or at least a single technical core staff, make all country visits, rather than resort to the use of several teams which conduct simultaneous visits in several places.

Each staging team member will have specific task assignments and will be responsible for those assignments in all countries visited. For the team as a whole, the work tasks are as follows:

Task 1: Compilation of Baseline Data
and Conduct of Courtesy Visits

Joint visits by the country contractor and staging team will be made with host government officials in ministries of health and education. Allowance is also made for one other government agency, to be named following country selection.¹ Other visits will include contacts with voluntary agencies (CARE, CRS, CWS, etc.)--we assume that two volags would be involved in the study in most cases--and one visit with an international donor agency such as the World Food Program. The USAID mission will, of course, also be involved in all phases of staging tasks and may wish to participate in the visits.

¹This unspecified agency could, for example, be a planning agency such as PLANALDE in Columbia, the Food Aid Committee in Ghana, BAPPENAS in Indonesia, etc. Contacts with such groups would be mandatory in each of the countries.

These visits will serve a two-fold purpose. They will serve as necessary courtesy calls to host country officials and other agencies concerned with health, education, and feeding programs. They will also provide baseline information on program operations, costs, and other data necessary for initial site selection, instrument adaptation, and final program evaluation. The visits have been divided among the staging team, with the team leader, the AID/W representative and one other team member visiting host government officials, and with team members responsible for site selection making the voluntary agency and donor program visits. Every effort has been made to minimize pure protocol visits, and our experience with similar work in the global evaluation of PL 480 Title II suggests that this approach will work well.

Task 2: Adaptation of Field Instruments to Country Needs

This task will require a thorough review of each and every item in the data schedules and forms, to ensure that questions are suited to the language, customs, and educational/health organization of the areas selected for study. In turn, this will require a review of the country contractor's translation pre-test to ensure that all questions, interviewer instructions, and other data items are understood and that pre-test results are responsive to the questions asked. Data schedules and forms may also be reviewed with USAID mission personnel, for possible adaptation to their particular information needs. These reviews are expected to produce modifications in the data schedules and forms. Final approval of such modifications will be made during the staging visits, taking into consideration their overall effect on the entire research design. In addition, coding for certain data schedule items which necessarily vary from

country to country and from region to region within countries (such as food types) will be added during the staging visits.

The field instruments used for this evaluation must be adapted to country settings in such a way that the instruments remain comparable across all countries, and that modifications make sense in terms of the analytic needs of the overall research design. The staging team member handling this task must have a very thorough technical knowledge of the field instruments and of every data element in them, and also an expert understanding of the analytic requirements of the evaluation.

Task 3: Site Selection and National Data Compilation

This task will require a review of preliminary data collected by the country contractor on possible study sites, augmented by discussions with host government, voluntary agency, donor program, and USAID mission personnel. Utilizing all of this information, each candidate site will be subjected to the following "ideal site" criteria:

It would include a school with a well-run feeding program and, hopefully, carefully maintained records, and in which the feeding program was instituted around 1970 and has been operating continuously since that time;

It would include a second school, also with reasonably good records, which has never had feeding but which serves a population which is well matched to the fed school;

It would include an MCH operation which has been running at least three years, hopefully longer;

It would include a compound or neighborhood which is known to be lacking MCH services;

It would have had a relatively stable existence over the past five or six years of time, without experiencing either a typically good or unusually lean years from a health or

food standpoint, and without experiencing effects of any really unusual population movements;

The recipients of program services would not be heavily weighted with officials' children or other advantaged groups for which feeding programs would be a marginal service; and

The site area would be geographically compact, so that a field team centrally stationed can cover any part of it without consuming more than two hours a day per person in travel.

Final site selection will be reviewed in a conference which includes all staging members, the country contractor, key staff, and the USAID mission representatives. The USAID people may wish to adapt site selection to serve their own needs. For example, the design could provide a preliminary approach to comparing different modes of MCH operations. Should a mission favor the use of the study for these ends, this can be done as long as the sites meet the other criteria listed above.

In the process of site selection, baseline data on the country, on the basic program approaches (including goal definition in terms of AID's "logical framework" approach), and on sites themselves is to be further refined. The baseline forms for field teams may be partially or even entirely completed during the staging visits (in such a case, field teams will still review these forms while on-site to verify the data). It will be the particular responsibility of the staging team's site selection specialist to (a) complete a logical framework form for each major voluntary agency or government program involved in the study; (b) to obtain a prose description of the agency's general programming approach--how it operates its activities, in detail; and (c) to assemble a comprehensive

analysis of national program cost for each of these operations, following the procedures defined in the AID-sponsored evaluation of PL 480 Title II in order to arrive at an estimate of expenses on a recipient-day basis.¹ These data will be used in the global cost analysis reviewed in Section V of this report.

In addition, it is the responsibility of the site selection specialist, working with country contractor staff, to review and approve a package of national background information for the study which includes:

1. A map of the country showing final site locations;
2. A capsule description of the current economic situation: major economic activities and trends;
3. A digest of current demographic data on employment trends, migration, births, infant mortality, deaths and cause of death, and education levels;
4. A description of the health services situation in the country, including identification of major public health problems such as epidemic disease, sanitation, etc., and the steps being taken to deal with these;
5. A description of the educational system, including facilities, staff, national enrollment and potential enrollment, grading and promotion systems, availability of achievement test data and, if available, norms for these data, ail for private and church-related as well as government schools; and
6. A description of the nutrition situation, treating food staples, common nutrient deficiencies, availability of high-protein supplementary foods, findings of any dietary studies, seasonal or regional variations, and food taboos.

It is expected that drafts for these summary materials will have been prepared in advance of staging by country contractor staff. Their review here will, again, ensure comparability in the global analysis.

¹See Abbott, op. cit., pp. 186-190.

Task 4: Review of Survey and Analytic Requirements

This task will involve discussions, review, and, if necessary, training on the general research design and the analytic needs of the design. These sessions will be conducted by the staging team leader with the country contractor's study director and principal analysts. The discussions are likely to focus on preferred formats for reporting information, relative merits of one or another statistical approach to the data, technical procedures and ideas for analysis, organization of reports, and other topics of the research trade. These are not expected to be one-sided discussions; good country contractors should be able to provide many excellent suggestions for the study. The bulk of the time, however, will be necessarily consumed in seeking ways to conduct comparable analyses across all countries, a subject which will require that the team leader be able to field a wide range of inquiries from the contractor's technical and statistical staff.

Task 5: Review of Field Team Staffing and Provision of Field Team Training on Carrying Out the Field Assignments

The selection of field team staff will be reviewed by the staging team to ensure that all personnel are fully qualified. This review will be based in part on the criteria for field team staffing suggested in subsection B above.

Field team training must include a review of the data schedules and discussions of the general data needs of the evaluation and, in particular, why the field tasks take the form that they do. It will include more detailed explanations of field team scheduling, sampling procedures, taking of physical measurements, daily field team diary

compilations, and initial analytic requirements. Field team training will be carried out by the country contractor and the staging team members, with the team leader and the field instruments specialist having prime responsibility. The training will be conducted by rotating field teams through several separate training sessions, each conducted by one of the staging team members in conjunction with country contractor staff, and holding general discussions with all field personnel at the beginning and end of the training sessions.

The staging visits will be made by three or four representatives of the U.S. contractors, and possibly one or two representatives from AID/W. We judge that the above work tasks can be accomplished by a four or five-person staging team in a one-week period. Exhibit 5 on the following page shows the division of work tasks by team member and time period.

D. FIELD PREPARATION OF THE FIELD TEAM

Following the staging visit, field teams will have approximately one week to prepare for their field activities. During this time, field teams must assemble all necessary materials and supplies needed for data collection field work, including reproduction of data schedules (which must not begin until cleared in the staging visit), and they must make transportation and all personal housing arrangements. Measuring instruments will be supplied to field teams by AID/W. Each field team will need to take the following supplies with them:

- 200 copies of the data schedule for mothers;
- 10 copies of the data schedule for headmasters;
- 10 copies of the data schedule for teachers;
- 120 copies of the data schedule for school children;

EXHIBIT 5

Country Staging Visit
Work Tasks

Team Composition	TEAM MEMBER #1 TEAM LEADER AND RESEARCH DESIGN SPECIALIST: U.S. Contractor	TEAM MEMBER #2 FIELD INSTRUMENTS SPECIALIST: U.S. Contractor	TEAM MEMBER #3 SITE SELECTION SPECIALIST: U.S. Contractor or AID Representative	TEAM MEMBER #4 AID/W REPRESENTATIVE (Optional)	TEAM MEMBER #5 EDUCATIONAL ADMINISTRATION: SPECIALIST: U.S. Contractor or AID Representative
Overall Duties	Supervision of Staging Team; Training on Survey and Analytic Requirements of the Design	Adaptation of Field Instruments to Country Needs	Selection of Study Sites	General AID/W and USAID Representation; Selection of Study Sites; Special Expertise in Nutrition and MCH	Special Expertise in School Systems and Procedures
DAY 1: AM	← Team meets with AID mission and with country contractor →				
PM	HG visit: Ministry of Education	Review with country contractor on general team selection work status, etc.	World Food Program visit	HG visit: Ministry of Education	HG visit: Ministry of Education
DAY 2: AM	HG visit: Ministry of Health	Instrument review	Volag visit #1	HG visit: Ministry of Health	Volag visit #1
PM	HG visit: (unspecified)	↓	↓	HG visit: (unspecified)	↓
DAY 3: AM	Review with country contractor on general technical requirements; Plan training session	↓	Volag visit #2	Volag visit #2	Instrument review
PM	↓	↓	↓	↓	↓
DAY 4: AM	Review with country contractor on analytic requirements	Review of field team staffing	Site selection recommendation	Site selection recommendation	Site selection recommendation
PM	Site selection	Site selection	Site selection	Site selection	Site selection
DAY 5: AM	Field Team Training	Field Team Training	Field Team Training	Field Team Training	Field Team Training
PM	Final review with AID mission	Field Team Training	Field Team Training	Final review with AID mission	Field Team Training

- 5 copies of the data schedule for MCH administrators;
- 3 copies of the baseline data form;
- 10 copies of height/weight MCH charts used in the country, as samples used in mother interviews;
- 2 weighing machines;
- 2 height measuring devices; and
- 10 copies of a map of the site area.

Extra copies of all data schedules are included in these specifications; experience suggests that one should be generous in these allowances.

During the weeks preceding the field work, all team members will become familiar with the data schedules, possible study sites, and field task schedules. Most major problems and questions will be treated during staging. Additional difficulties may be encountered during the field work itself; it will be the responsibility of the country contractor to establish systems for fielding these, coordinating at the same time with the USAID mission.

The little men in untold legions
 Descend upon the private regions
 Behold, my child, the questionnaire,
 And be as honest as you dare.

As briefly as possible, kindly state
 Age and income, height and weight
 How much of your incomes goes for rent?
 Give social background, by percent.

Will Christ return? If so, when?
 (kindly fill this out in pen)
 Have you mystic inspiration?
 Our thanks for your cooperation.

--Non-respondent No. 5542¹

This section provides detailed instructions for selecting persons to be interviewed at the study sites, and for carrying out interviews, record searches, and physical measurements.

Field team activities will consist of four main tasks at each site: (1) baseline data collection; (2) data collection in the program school, the control school, and in homes of mothers of school children; (3) data collection at the MCH center and in the homes of current MCH enrollees, former MCH enrollees, and mothers who have never had MCH exposure; and (4) follow-up tasks in all of the above areas. Each of these activities will be discussed in turn, following a brief discussion of general field work requirements and data schedule design.

¹Written anonymously in lieu of a returned questionnaire for Demerath-Lutterman study of campus religion and student values, U. of Wisconsin, and quoted in The American Sociologist (May 15, 1971).

It is taken for granted that country contractors will be fully aware of the standard procedures for organizing and supervising field survey teams and interviewers. This awareness must be transmitted to every field team member as part of the pre-staging familiarization process, and checks on field team staff understanding of the problems caused by interview biases, sloppy administration, and other human errors in survey research should be further tested during the staging and by country contractor supervisory personnel during the field work itself. The data forms do not contain standard introductory statements, because we judge that these kinds of "script" entries should be worked out by country contractors, based on their own experience. The omission of such materials in these draft forms should not be taken to mean, however, that the usual safeguards of survey reliability--asking questions in a uniform and consistent fashion, refusal to lead respondents in their answers, making every attempt to talk to the respondent without interference from third parties--have been forgotten. They have not, and a major interest of staging teams will be to determine how country contractors propose to meet these standards.¹

¹Two exceptionally fine monographs are available on the subject of dealing with field research in developing countries, and we urge that all country contractors be supplied with these: the monograph by Kurt W. Back and J. Mayone Stykos, The Survey Under Unusual Conditions (Ithaca, New York: The Society for Applied Anthropology, 1959), and John C. Caldwell, et al, A Manual for Surveys of Fertility and Family Planning: Knowledge, Attitudes, and Practice (New York: The Population Council, 1970), pages 89-120. The former volume contains a wealth of good suggestions for training interviewers and for making provisions for some of the more unusual problems which can occur in surveys in developing areas; the latter contains a good summary of necessary field preparation steps and an excellent, and illuminating, case study of successful field study in West Malaysia. In addition, the NORC guide A Brush-up on Interviewing Technique (Chicago: National Opinion Research Center, 1965) is a standard in the field and is especially suitable for setting up training sessions.

A. FIELD TEAM DIARY COMPILATIONS

Each field team will keep a daily diary for each site visited. This diary will serve as a record of all accomplishments during each day's activities--who was interviewed, where the visits were made, what problems were encountered, what follow-up tasks were completed, what data was collected from records of health or enrollment, what measurements were taken, and so on. In addition, the diary will be a repository for all anecdotal data which the field team obtains but which has not been recorded in data schedules. Such information may include comments by teachers or headmasters about feeding programs; individual reactions of mothers or children to feeding programs; statements by MCH staff on program history or effects; and so on. The field team will enter information into this diary following each day's activities, to ensure accurate recall of information.

These diaries will serve two purposes: they will supplement structured interviews with other kinds of qualitative or anecdotal data, and they will serve as a comprehensive record of the work of the field teams.

B. THE DATA SCHEDULES

Data schedules and data forms will be used for assembling baseline information on each site and for interviews with five types of respondents: (1) MCH program administrators; (2) school headmasters; (3) school teachers in grades one and three; (4) school children in grades one and three; and (5) mothers.

Data schedules will be identified and matched through a system of ID codes for the country, the community, the type of institution,

the type of respondent, the family (if applicable), and the sibling (if more than one child in the same family is interviewed). These codes are as follows:

<u>Country:</u>	Codes 1-3 (pre-set, may be printed on all forms within the country)
<u>Community:</u>	Codes 1-5 (by site)
<u>Institution:</u>	Code 1 = School with feeding program (program school) Code 2 = School without feeding program (control school) Code 3 = MCH center or control area for MCH center Code 4 = Community baseline data
<u>Respondent:</u>	Code 1 = Headmaster Code 2 = Teacher of first grade Code 3 = Teacher of third grade Code 4 = School student in first grade Code 5 = School student in third grade Code 6 = Mother of student in school sample Code 7 = Mother currently enrolled in MCH Code 8 = Mother formerly enrolled in MCH Code 9 = Mother never enrolled in MCH Code 0 = MCH program administrator
<u>Family:</u>	Codes 001-999 (unique assignment at each study site, by the team, according to family names ¹)
<u>Sibling:</u>	Code 1 = Older child Code 2 = Younger child (use more codes if necessary, from oldest to youngest; assigned only if more than one child from the same family is sampled in the school survey).

I. D. codes will be filled in prior to each interview.

¹If, by chance, the same mother is sampled both for school and MCH purposes, one I. D. code can be used with multiple coding of respondent type and the interviews can be combined.

Each data schedule is divided into sections, according to respondent types within broader respondent categories. For example, headmasters are divided between those in program schools and those in control schools. Special sets of questions are then directed, in each section, toward particular respondent types.

The data schedules will be filled in by interviewers by either: (1) circling a number code for pre-coded responses; (2) writing in a number for quantitative responses; and (3) writing in verbatim responses for open-ended questions, which will be coded later (see subsection E).

A few other comments about the data forms are in order. The study uses a standard convention for reporting percentage figures; in all cases whole percents are entered, and if the figure happens to be "100%" it is arbitrarily entered as "99%" to simplify coding and key-punching. For this and all other numeric entries--where boxes are supplied for each digit--all entries are to be zero filled so that all of the boxes are filled in. For example, the percentage figure of nine percent is to be written in as the number 09; for a population of 56,976 entered into a set of boxes which provide for figures as large as one million, the entry will be in the form 0 056 976. This procedure must be followed even when no keypunch annotation appears on forms.

All data schedules are reproduced in Appendix A.

C. BASELINE DATA COLLECTION

The baseline data form (color-coded gold in the attachments in Appendix A) is the major instrument for recording general background information on site characteristics. Certain special background items

which are likely to be the special province of MCH or school officials have been placed in other data schedules. As in all other data schedules which are not to be keypunched by the country contractor, we require that the form either be completed in English or translated, so that the global analysis can work directly from these documents.

Country contractors will obtain a great deal of data which is relevant for these forms prior to the field work. Staging discussions will further augment this pool of baseline information, and draft baseline forms can be used during staging to record information on potential sites. Wherever general, national-level discussions pick up data which also describes conditions at particular sites, these pieces of information can be immediately entered onto the schedules. In this manner, much of the site baseline data may be completed before the field work begins. The field team will still be responsible, for course, for checking the accuracy of these entries with counterpart officials of government, voluntary agency personnel, and others at the site level, and if better estimates of baseline information can be made in the field, the forms should be corrected. In addition to team talks with the persons noted above, baseline data may be augmented, clarified, or obtained in interviews with school or MCH officials.

The content of the form is simple. It asks for basic descriptions of the site region in geographic, economic, demographic, public health, and food/nutritional terms. All items are either completely pre-coded or completely open-ended, and no coding of the latter items is needed because only 15 to 20 forms of this kind will be obtained globally--a small enough number to allow treatment of the original responses without additional editing. A map of the country is needed as an attachment to the form, as is a second map of the site itself.

This site map must be large enough to serve for recording a number of features of the area called for in this and other forms; if needed, several site maps may be used.

Demographic information called for in the baseline form may not be available in official census figures. The preferred procedure for all demographic data in this or other forms is to obtain as many estimates of a particular statistic as possible, subject to these estimates to critical review by respondents and by the field team, and then enter a "best estimate" while also reporting on the source used and any adjustments which have been made. As an example, notice that the income item calls for average household income, not for per capita income. Like many such statistics, this information will probably not be available in the required form. Instead, the team will have to make an estimate, based on whatever data it can obtain from national per capita income estimates (which usually are available), adjusting these for regional differences, estimating typical numbers of people in households, and multiplying the adjusted per capita figure by the estimation of household size. All such estimations contain error, and there is no pretense here that these figures will be ultimately reliable. With care and opportunity for others to judge the sensibility of the results, however, these estimates can be continually refined and should be adequate for the purposes of this study. We go into detail here in order to provide an illustration of procedures which will have to be applied in numerous cases in order to complete these forms.

The baseline form includes space for reporting field team inspections of local food markets, to determine what food commodities are locally available. The list of "standard foods" in this section is designed to be comparable with similar lists in other data forms, and

specific codes will be added in during the staging visits, based on local dietary customs in each country and taking into account site variations, if needed.

D. DATA COLLECTION IN SCHOOLS

Within each community site, two schools will be visited--the program school and the control school. It is assumed that the identity of both schools will be known in advance, drawing on data obtained by country contractors prior to staging and on the discussions and interviews of the staging visits themselves. Interviews will be conducted with headmasters, teachers, students, and students' mothers; data will be collected from school records on enrollment and attendance, scholastic achievement, and medical history; and measurements will be taken to determine the height and weight of students. It is suggested that these activities be conducted in the order listed below; however, field teams may find it necessary to adjust this procedure in the field.

1. Initial Interviews with Headmasters

The school headmaster (or other person in charge of school administration) will be interviewed first, in order to gain an understanding of the general operations of the school and, if applicable, the school's feeding program. In addition, information relating to class and grade, which is essential for class sampling, and information on types of records maintained, which is essential for filling in most of the other data schedules for the school, will be covered in the initial interview.

The headmaster's data schedule (color-coded blue) is divided into four sections. The first section is for all headmasters;

the second section is only for headmasters in schools with feeding programs (program schools). The third section is an enrollment and attendance data form which may, if needed, be completed by the field team without taking the headmaster's time for searches of records and retabulation of data. When this form is complete, a brief re-interview of headmasters is used to obtain the judgments of these officials regarding the trends indicated by the data.

Like other forms in this report, the headmaster's form is largely self-explanatory. It requires, as does the baseline form, reference to a map of the site area and the estimation of certain items of demographic information. Wherever the form contains the instruction to "estimate," it will be permissible for the field team interviewer to break normal rules of survey research and lead the respondent, in an effort to arrive at a "best judgment." Other standard instructions include a request for precisely the opposite type of interviewer action, in which a question is asked and is coded by the team member without providing any hints at all on what the possible responses might be (the "do not read responses" instruction); still another standard instruction asks the interviewer to probe the respondent's answer to ensure that needed detail is obtained, without suggesting specific answers.

Several kinds of conversions of the headmaster data are needed. These are quite simple and probably can be entered directly on the forms following each interview. Simple conversions of cost figures to U.S. dollars can be calculated on the basis of a standard list of rates to be supplied at the time of staging. The schedule also asks the team to calculate the total years of program operation and the number of feeding days per year, both for program schools only.

The first page of the data form for school attendance and enrollment will be filled out by the interviewer with the assistance of the headmaster. This information will serve as a check on the enrollment and attendance data, to ensure that data is comparable across schools and that events which might have caused changes in enrollments and attendance are taken into account when comparing schools.

On the next page of this form, the first column of entries will deal with the population base of children in the first-grade age range who could have enrolled in this school, for the past six years. These will have to be estimated; a starting point will be question four of the main headmaster form. National census data and local government records may also be useful. The second column is for entering the number of children who were actually enrolled in the first grade during the past six years, and the third column will give the average annual daily attendance among first graders for each of the past six years. Both enrollment and attendance information should be collected from class or other records kept by the headmaster and teachers in the school.

The third page of the enrollment form will require a similar information search, utilizing records or notes the headmaster or teachers may have, and is intended to provide enrollment and attendance data for individual cohorts of students over time. All sources of information for enrollment and attendance data will then be cited, as a check on the validity of the data, and derived information on the "propensity to attend" is entered, either by the field team or later by country contractor staff, following the instructions which appear on the form itself.

2. Class Sampling

Following the initial interview with the headmaster, one class at the first grade level and one class at the third grade level will be chosen for study. If students within grades are assigned randomly to classes, then the field team will select the classes at each grade level which have the largest number of students enrolled. In order to determine whether students are, in fact, distributed at random, the field team will look at question number 7 of the headmaster's schedule:

Do you separate classes within grades according to students' ability or according to any other special criteria?

If the answer to this question is "no," the field team will proceed as stated above and select the first grade class and the third grade class which has the largest enrollment. If the answer to question number 7 is "yes," the field team will treat the entire grade as if it were one class, and sampling of students will be based on the entire grade. For example, if there are four third grade classes within a school and these classes are separated according to scholastic ability (or some other criteria), all four groups of students should be treated as one class. In this case, the team should select a single teacher as the respondent for the teacher interview at each grade level; if specific classes can be sampled (the preferable situation), teacher interviews will simply be with those who teach the sampled classes.

3. Interviews with Teachers

The interviews with first and third grade teachers will be relatively brief. The teacher's data schedule (color-coded green) provides general information on class enrollment and attendance,

teaching qualifications, content of nutrition classes, and information on the school feeding program.

Following the interview, the teacher will be told that the field team will be recording information on class enrollment and attendance for the past six years and will request the teacher's assistance in filling out those forms. A simple class-level "propensity to attend" derivation is included, calculated by dividing typical attendance into class enrollment. Teacher's judgments and assistance are solicited for later completion of student questionnaires.

4. Student Sampling

Following the interview with teachers, the field team will request a list of the names of students who are enrolled in the teacher's class. This list should include the names of all enrolled students, whether or not they are present in class on that day (in most cases a teacher's attendance book will provide this list). A sample of twenty students will be selected from this list to be interviewed from each class.

To choose the sample, the field team will number each child enrolled (starting with #1). These numbers can then be matched with those in the random number table below, ignoring any random number larger than the class enrollment. As soon as twenty students have been chosen, the sample is complete. If any students who are selected for the sample are absent from school on that particular day, the field team will attempt to contact them later or try to locate them at home. If by the last week of the team's stay there are still children who have not been contacted, they may be replaced by continuing with the sampling procedure. Such replacements must be noted in field team diaries.

LIST OF RANDOM NUMBERS FROM 01 TO 99: Read down columns (55, 04, etc.)

55	97	89	21	48	26	81	85	43	90
04	77	16	75	40	02	36	99	08	37
38	84	13	15	63	41	71	51	76	69
45	52	25	72	49	86	60	19	70	64
79	80	22	87	96	94	62	83	33	47
32	88	46	66	95	09	31	92	91	07
14	53	73	20	82	57	78	65	12	58
56	28	35	44	59	61	42	24	67	03
29	27	17	50	06	68	23	05	54	11
74	98	18	10	01	30	39	93	34	

Sampling Example: A class has an enrollment of 45 students, all of whom are listed in the teacher's attendance book. They are assigned numbers from 01 to 45. Using the list above, the sample will then consist of student numbers:

4, 38, 45, 32, 14, 29, 28, 17, 16, 13, 25, 22, 35, 17, 18, 21, 15, 20, 44, and 10.

5. Interviews and Data Collection for Students

For each of the twenty students in the first and in the third grades who are sampled, data will be collected from the child's teacher, headmaster, and mother, and the field team will take additional observations and measurements. This data will be recorded in Section I of the data schedule for school children (color-coded in white).

The field team may find that many children do not know their date of birth. In this case, field teams will attempt to obtain this information from other public or private sources, such as school or government records, or the child's mother. If exact dates are not available, approximate dates of birth should be estimated.

The height and weight of the child will be measured directly by the field team, using standard equipment supplied for this study. Two measurement trials must be taken for height; if they do not agree, a third measure should be taken. The same procedure applies to weight. It is imperative that field teams utilize the following standard method in taking height and weight measurements of the school children.¹

Standing Height: The child should stand on a horizontal platform without shoes or socks and with his heels together and should stretch upwards to his fullest extent. The child should be instructed to relax his shoulders and take a deep breath (ensuring he will reach his fullest height). The child's heels must be watched to make sure they do not leave the ground. The child's back must be as straight as possible, and his line of sight must be horizontal. His height should be measured to the nearest centimeter.

Weight: The child should be instructed to empty his bladder and remove his shoes, socks, pocket contents, and all clothing except for garments normally worn indoors. The weight of a representative garment should then be subtracted from the observed weight of the child. Weight should be measured to the nearest tenth of a kilogram.

Even small variations in these procedures will produce measurement error. As additional checks, team members should verify each other's measures of particular children. The staging visit will include special training in taking these anthropometric measures.

Section I of the school child's data schedule will also contain inoculation and other medical information obtained from any health

¹ Methods for measuring height and weight are abstracted in part from the forthcoming Pan American Health Organization Manual of Internationally Comparable Growth Studies in Latin American and the Caribbean, a draft version of which was kindly made available for this project.

records available in the school. The interviewer who talks with the child will also record his own subjective assessment of the healthiness of the child on a three-point scale. This subjective assessment should take into account the child's general physical appearance, such as hair and skin condition, stomach distension, observed weight, and his speech and hearing. If IQ measures are available, the field team will record these measures on the data schedule. The teacher will be asked to provide each child's "average marks" (the mean grade to date), from grade books, and these should be recorded on the data schedule.

Standard scholastic test score data will be obtained, if it is available (the availability of such information is a criterion for country selection). It is possible team members may need to administer a simple test for the purposes of this study if no other achievement measures can be obtained, as noted in Section I of this report. If this is the case, procedures will be outlined in the staging discussions. Recording test data presents some special problems. The form requires standard scores. Assuming the country does have a national testing program, norms and standard deviations for tests can be obtained prior to or during the staging visits. The team must then determine what kind of score the school has provided. A standard score based on national means and standard deviations can be entered as is; raw scores can be converted; standard scores based on local norms can be converted to raw results and then placed on national standards.

As data collection on these sampled students proceeds, team members will also carry out individual interviews with each child (Sections II and III of this form). The interview form is simple and calls, generally, only for "yes" or "no" responses. Since it is

necessary to work with the children for height and weight measures anyway, we recommend that the child interviews be done on a one-to-one basis. Note that teachers' enrollment records must be inspected before the interviews can take place, so that children can be asked about absenteeism.

Interviewing children requires some special skills. The team member must avoid an authoritarian stance and should project a friendly and patient attitude. The interviews should take place outside the classroom, away from the presence of other persons.

A number of derivations of the children's data are needed. Most are fairly simple, but in some cases detailed explanation is needed. Calculation of the child's age in months and his propensity to attend for the last month involves calculation from other data in the form, similar to the kinds of derivations discussed before. The food habits and knowledge scales, the weight/height derivations, and the 24-hour recall question all require more complicated kinds of treatment, as noted below:

a. Food Habits Scale

This is scored as follows:

Question Number	If "Yes"	If "No"	If "Don't Know"
8	2	0	1
9	2	0	1
16	2	0	1
17	2	0	1
25	2	0	1
...and			
18	0	2	1

The resulting scale can take on any value from zero to 12, with a score of six denoting a neutral midpoint.

b. Food Knowledge Scale

This is scored as follows:

Question Number	If "Yes"	If "No"	If "Don't Know"
11	2	0	1
13	2	0	1
22	2	0	1
23	2	0	1
24	2	0	1
...and			
12	0	2	1

The resulting scale is similar to that described for food habits.

c. Twenty-Four Hour Recall of Foods Eaten

This is one of the few cases in these forms where full-scale coding by the country contractor is needed. All responses must be judged by a nutritionist; a list of the different kinds of responses obtained in field studies should be made up in advance by the contractor to assist this review. The responses are to be classified on a scale with values 1-9. The benchmarks for these values are to be international health standards, as follows:

- 9 = response suggests a diet substantially better than the minimum needed to ensure good health, by international standards, for this child.
- 8 = interim code
- 7 = response suggests a diet adequate to insure good health, by international standards, for this child.
- 6 = interim code
- 5 = response suggests a diet insufficient to maintain good health, but not so poor as to lead to kwashiorkor or other major malnutrition problems.

- 4 = interim code
- 3 = response suggests a diet poor enough to lead to serious malnutrition.
- 2 = interim code
- 1 = starvation levels.

The reasoning behind this scale structure is as follows. First, no rigorous, internationally accepted definition exists of what constitutes "good health." However, in an impressionistic sense, most nutritionists seem able to make health judgments along the lines suggested here. Second, owing to genetic and other factors, what constitutes an adequate diet varies from place to place. The scale allows the nutritionist to assess the child's response in terms of the health results which are implied, rather than asking for a direct judgment about the adequacy of the food itself on some international basis. Essentially, we set up five major conditions, ranging from diets which are more than sufficient, diets which are sufficient, diets which are insufficient but not drastically so, diets which are drastically insufficient, and no diet at all.

To make the leap between the child's self-reported food intake to these judgments requires some confidence that the results will have some meaning. This coding can be doublechecked at global levels, and other approaches to the recall data can be tried. Note that the judgment requires the assumption that the previous day's intake is typical of all days. Nutritionists may hesitate here; if a child reports that he ate little or nothing the previous day, are we to conclude that he is starving? For these purposes, the answer is "yes," because the data are to be assessed on a group basis and we assume that the sample of all children will provide the best reading

on the diet of an average child on an average day--during which some children might eat a great deal and others eat next to nothing.

Much the same procedure will apply to coding of the 24-hour recall item in the mother's questionnaire.

d. Height/Weight Derivations

The problem here is to convert the particular weight and height of a child of a given age to a standard scale, so that his relative health can be compared with that of children of some other age. This will enable first/third grade comparisons, for example. In prior nutrition evaluations, these kinds of conversions have been carried out by inspection of standard charts for weight by age or height by age. The charts show percentile deviations from a norm, and data for a given child can be marked on the chart and his percentile score estimated by inspection.

This procedure is not very precise and it is time consuming. For this study, it is preferable to use the same standard data--such as the file of information maintained by Harvard University on the growth of a standard group of 30 Irish-Americans sampled during the 1930's, a benchmark which seems to have been widely used internationally and which, as a matter of serendipity, seems to have worked rather well--and fit a mathematical curve to these data, thus generating a conversion formula which can be easily applied by field team personnel, by country contractor staff, or globally by machine calculation. At the moment, the questionnaire coding assumes a percentile conversion, but experience in some countries where local norms are very small percents of the Harvard standards (one study in Nigeria reports norms for children at the .03 level of the U. S. benchmarks), suggests that additional transformations may be useful.

The needed conversion formula do not exist at this writing. However, we expect that they can be generated without difficulty prior to the staging visits, and transmitted to country contractors at that time.¹

¹Our check included inquiries to see if such conversions existed with any of the standard height/weight benchmarks, but concentrated on the Harvard data since that is the most widely used norm available. Dr. Robert Reed, Chairman of the Department of Biostatistics at Harvard and the outstanding authority on this research question, confirms that these manipulations are needed and ought to have been generated by this time, but that even so this has not been done. Inquiries with the National Institutes of Health, the U.S. National Center for Health Statistics, the Center for Disease Control in Atlanta, and a number of other agencies came to the same conclusion.

Checchi has investigated the technical problems of generating the formula. On first glance, it would seem that the usual regression procedures might not apply because of perfect correlation for age in the longitudinal Harvard data. However, this problem can be solved. At this writing, it appears that the needed formula--six equations for weight-for-age, height-for-age, and weight-for-height, each paired by sex--can be generated, written up, and the resulting information submitted to the nutrition journals as a research note, for a total outlay of around \$2,500. Dr. Reed's unit should be the first port of call for such a task. However, he has indicated that existing commitments may not permit his people to undertake this task within the immediate time constraints of this study. In that case, he indicated a willingness to supply the needed data to Checchi or other possible research groups, so that the job could be done. At least two federal agencies express some interest in funding this work.

6. Interviews with Mothers of School Students

Following interviews with the school children, the child will be instructed to tell his mother that someone from the school will be visiting them to ask some questions about the feeding program. Interviewers may contact mothers directly, using school personnel to help locate their homes. They may also ask the child to show where he lives. The field team should verify that the woman to be interviewed is either the mother or the guardian of the school child before proceeding.

The questions to be asked of mothers of school children are contained in Sections I, II, III, and V of the data schedule for mothers. This form is used for both school and MCH mother interviews and is taken up separately in subsection F below.

E. DATA COLLECTION IN MCH CENTERS

Within each community site, one MCH center will be visited. A sample of 30 mothers who are current participants in the MCH program and a sample of 20 mothers who are former participants in the program will be interviewed. In addition, a sample of 20 mothers in a nearby area not served by an MCH program will be interviewed. For all mothers, height (or length) and weight will be taken for two of their children. Details for each of these activities follows.

1. Interviews with Administrators of MCH Programs

Interviews with MCH program administrators (forms color-coded pink) will obtain information on program operations and services, and will verify the types of records maintained by particular programs. The formal interview should be based with

the clinic's chief administrator. In addition, field teams should record any other information obtained from program personnel, such as case histories which illustrate the program's effect on the health of the community. Field teams will return to the MCH center following the interviews with mothers, to record retrospective data on children's birth weights.

The MCH administrator form presents no new issues of coding. Deviations are self-explanatory (such as the number of years the clinic has been operating). A considerable amount of cost data is requested; details may not be available, but administrators should be able to make good estimates and cost totals should be known. The detail is included to ensure that totals do not omit important items. Food ration information is for cost analysis at the global level, and need not be coded by country contractors.

2. Sampling Current and Former MCH Enrollees

Following the interview with the MCH program administrator, field teams should obtain a list of mothers currently enrolled in the program and a list of mothers who have "graduated" from the program and no longer attend. Such lists may be derived, if necessary, from visitation records maintained by most MCH centers. Newer centers may have few "graduates" because in most places mothers may re-enroll each time they have a baby; if fewer than twenty "graduates" can be identified, the sampling requirements can be relaxed accordingly. This is the only point in the design where this is permissible. The final sample lists should include all types of mothers served, excepting only women without children (e. g., first pregnancies).

To sample these mothers, the team is to use a procedure similar to that used for school students, except that the number of possible cases will probably exceed 99. To adjust for this, the team should determine the total number of mothers on a list (treating current and former enrollees separately; a sample is drawn of each). Then the team should number every name for lists of less than 100 mothers; every other name for lists up to 200 mothers; every third name for lists up to 300; and so on. These numbers can then be matched with the list of random numbers on page 47 of subsection D, above. As before, random numbers in the list which are larger than the last assigned number should be ignored. As soon as 30 names have been chosen from the list of current enrollees, that sample is complete. As soon as 20 names have been chosen from the list of former enrollees, that sample is complete.

Sampling Example: The MCH center lists 370 current mother enrollees with children, and 20 additional enrollees without children (pregnant women). The latter women are to be excluded from the sample. Of the 370 women, then, we require a sample of 30. The respondents may be chosen by numbering every fourth name on the list and then matching these numbers with the random numbers. After numbering every fourth woman, we would have listed enrollees from one to 92. Ignoring numbers in the random digit table which are larger than 92, the sample would then include mothers numbered:

55, 04, 38, 45, 79, 32, 14, 56, 29, 74, 77,
84, 52, 80, 88, 53, 28, 27, 89, 16, 13, 25,
22, 46, 73, 35, 17, 18, 21, and 75.

Field teams will obtain addresses for both current and former enrollees included in the sample and will interview these mothers in their homes.

3. Interviews with Current and Former MCH Mothers and Data Collection on Children

Interview questions with current and former MCH mothers are contained in Sections I and IV of the Data Schedule for Mothers (form color-coded yellow). Section VI of the data schedule covers health data for MCH mothers' children. The interviews will obtain information on mothers' exposure to the program, their attitudes toward the program, and the effect of the program on mothers' food/health knowledge and habits. Field teams should also record any anecdotal information about the mother or the home surroundings in the team diary, as they report on each day's work. These can include observations about food being prepared, material possessions, home cleanliness, and house construction. Detailed notes on the mother's interviews are covered in Section F, below.

4. Sampling and Interviewing Mothers in the Non-MCH Area

Based on advice from baseline and MCH administrator interviews, a compound, village or other area is to be selected which is known to have had little or no access to MCH services. Where services are organized on a village basis (as is true in rural Ghana, for example), identifying such places should present few problems. In other areas, for example large urban places, simple lack of proximity to a center may be a good guide. If no clear-cut choice can be made, the team should consider visiting the area furthest removed from services (allowing for exclusion of non-comparable neighborhoods, as noted below), and screening for interviews on a local basis.

Under the conditions of the field study, we feel that a rough approximation of random household sampling will do; the primary concern is to obtain information from bonafide non-enrollees, reasonably well matched in social, economic, and cultural characteristics to women who do participate in MCH. This means that the non-served area should not, obviously enough, be located in an upper-income neighborhood (which would be one type of un-served area). Assuming that a neighborhood has been identified which is reasonably well matched to the area where enrollees live, and which seems likely to provide some cases which have never been exposed to MCH, the next step is to select a definite physical boundary for the area. This should be noted on the site map. The area should not be too large, because the next step is to enumerate all the dwellings within it. For most conceivable control areas, this should be a task which can be carried out in a short period of time at the site, under an hour. These dwellings should then be numbered and a random sample of twenty drawn, using the same sampling procedures described above for students and mothers.

The field team must then visit each sampled dwelling and interview, in each, the first woman they find who: (a) has at least one pre-school child; and (b) has never participated in an MCH program. If necessary, additional dwellings should be sampled. It may also be necessary to expand the boundaries drawn around the sampled neighborhood, to include more dwellings. No more than one respondent should be selected from any one dwelling.

All of these procedures should be reported in detail in the field team diary.

Sections I and V of the data schedule for mothers apply to women in non-MCH areas. Following the interview, length and weight measures of the mother's two youngest children will be taken and recorded in Section VI of the data schedule. As in previous interviews, field teams will record any anecdotal information about the mother or the home surroundings in the team diary.

F. DATA COLLECTION WITH MOTHERS

This design is based on face-to-face interviews with the mothers of pre-school and school children. Most of the key background data for the site studies is obtained at this level, as well as important indicators of health and nutritional attitudes and behavior on the part of the mothers themselves.

It would be possible to conduct mother interviews at the MCH centers and even to ask mothers to visit schools for interview purposes. If absolutely necessary, the country contractor may wish that this approach be considered in the staging visits. But our recommendation for the study design is for home interviews throughout. Most schools will not be any improvement over the home as locations for a good interview; distractions and presence of other parties will still be a problem, and mothers may have considerable difficulty traveling to the school or in keeping appointments. Mothers do come to MCH centers, but only at infrequent intervals--generally, once a week at best--and while they are present, conditions are generally very poor for good interviews, because of the presence of large numbers of other mothers and their children.

Once access is gained to the home, all of the usual rules of good survey field practice will apply. The interviewer must attempt to talk to the mother alone, or at least without interference from third parties, and strict adherence to the interview schedule is crucial.

The same general form (color-coded yellow) is used for all mother interviews. The first section is directed to all mothers; the second and third to mothers of school children; the fourth to those in MCH programs or formerly in MCH programs; the fifth to all mothers except current or former MCH enrollees; and the sixth and last section to all mothers except those of children in the school samples. These filters are built into the schedules to assist interviewers in using the forms.

Few special items are included in these questionnaires which have not been reviewed already. Simple derivations of data are called for to develop a ratio of total births divided by total pregnancies, and another ratio of total living children divided by total births. The income item in the form calls only for cash income; it is recognized that this will understate real income for many households. The specific material possessions listed (as a potential socio-economic scale) in Question 11 of the form may be recast during staging visits to fit country conditions.

The questionnaire includes a 24-hour recall item for foods prepared and served to children. This should be coded and treated in the same fashion as previously outlined in comments on the students' questionnaires. In this case, the coder will have somewhat more extensive data on which to draw.

Three special derived scales are called for:

(a) Sanitation Scale

This is the simplest of all scales in the survey. Its values range from zero to two, awarding one point for a "yes" response to Question 19, dealing with boiling water before its use, and a second point for "yes" responses to Question 20, dealing with washing food before it is eaten.

(b) Mother's Food Attitudes Scale

This is scored on the basis of which "good," "popular," or "available" foods--specific commodities are to be inserted into the coding during staging--the mother feels are good for children:

Question 25 of Mother's Form: Items:	Responses:		
	Yes, Good	No, Not Good,	Don't Know
Good Unpopular Food	2	0	1
Bad Popular Food	0	2	1
Good Available Food	2	0	1
Good Unavailable Food	2	0	1
Bad Available Food	0	2	1

The resulting scale may take on values from zero to ten.

(c) Mother's Food Behavior Scale

This is scored on the basis of responses to Question 26, ignoring data on why foods are not used. One point is awarded for each "yes" response for items 26-A through 26-F ("Have you ever served eggs? milk? 'Vegetable A'? 'Vegetable B'? Meat?"). Overall scale values range from zero through five.

Other special items in these mother questionnaires follow conventions discussed above, including the derivation of height/weight/age scores, which will use the formula mentioned in Section D. Taking these measures for younger, pre-school children, requires methods slightly different than those used for school children, however. Again, two trials are needed, with a third trial if these disagree, and again every precaution must be made to eliminate measurement errors. The measurement technique for pre-school children is as follows:

Supine length: Children under five should be measured lying supine on a firm table. One person holds the infant's head with his line of sight vertical and applies gentle traction to bring the top of his head into contact with a fixed headboard. A second person holds the infant's feet, toes pointing directly upward, and places them firmly against a moveable footboard. The second person also keeps the knees extended with the other hand. Length should be measured to the nearest $\frac{1}{2}$ centimeter. (If the measuring device has a moveable headboard and a fixed footboard, place the feet in position first.)

Weight: Weighing should be done in the nude and recorded to the nearest tenth of a kilogram.

Where the measured child is enrolled in the MCH program, a return visit should be made to the center to pick up information on his weight at birth. This data can then be used to help assess effects of services for pregnant women, for those mothers who were enrolled at that stage.

G. FIELD DATA REVIEWS AND RE-INTERVIEWS

When all of the operations described above have been completed, field teams must make a careful check on the quality and completeness

of the existing data, and review to see if additional data is needed which was not included in the data schedules or which was overlooked during the interviews. If certain critical information was unobtainable through interviews or record searches, field teams should decide which other sources of information ought to be checked, and may then carry out follow-up interviews or record searches.

Field teams will assess data on enrollment and attendance (contained in the data schedule for headmasters) and determine if it suggests an increase or decrease over the past six years. Based on this assessment, the field teams will re-interview headmasters and complete Section IV of the headmaster's data schedule.

Field diaries are an important part of this review. They should be checked to see if useful information known to the team is not recorded, and to review the accuracy of prior entries. In no case, should previous diary entries be altered by field teams; the original entries should be left as is and corrections or amplifications inserted as they are turned up. This will enable AID and its contractors to revise the evaluation guidelines so that future studies will be better equipped with a knowledge of the problems of this field assignment. Finally, the diary must include a summary accounting of the work of the team--the number of interviews, visits, market inspections, etc., made--and any shortcomings from the design specifications should be noted and explained.

Following their return from field sites, field teams may assist country contractor study analysts with additional follow-up work tasks, including data derivations, editing and coding of the data

schedules, and site and country analyses. Country contractor study supervisors will carry out quality control checks, based on field team diaries, and will prepare a final data package for the Washington-based contractor. (See Section IV for details.)

The primary tasks of country contractor study supervisors, throughout the period of field activity, will be checks on the completeness of data schedules and reviews of field team diaries to ensure that all field activities are being carried out and are on schedule. Study supervisors will assist field teams with all problems of data collection, and will determine whether there is a need for other assistance for any field team. All schedules must also be fully edited by country contractors, checking accuracy of the interviewer's work and completeness of every form. Ambiguous responses should be edited and, if necessary, treated as "no answers."

It is well understood that all of the activities listed here seem to call for a great deal of work. Indeed they do. However, the task loading is not all that much greater than that commonly encountered in other surveys. One reason why the work load may seem so great, especially to readers who are not field research specialists, is that we have spelled out in detail a whole range of decisions which in most designs are hidden from all eyes other than those of the person directly in charge of the work at the study site. Our detailing does not add to the work load; rather, it treats this level of decision-making directly, in order to help ensure that the evaluation proceeds in a uniform way from country to country. In order to carry out this study, the work outlined here will have to be done. The manner in which this takes place will determine whether or not the study is comparable, and

therefore useful and valid for AID/W. Accordingly, we have chosen to specify these tasks, rather than leave them up to ad hoc decisions of country contractors and their field staffs.

IV. DATA SYSTEMS: CODING, PROCESSING, AND TABULATION

All things have their place,
knew we how to place them.

--G. Herbert

The mass of information outlined in the previous section demands careful organization if the evaluation is to proceed smoothly and meet its time schedule. Without systematic treatment of the data pool, the study runs a serious risk of non-comparable country contractor work and difficulty in compiling a uniform data base for the global analysis.

Much of the structuring needed for the study is provided through pre-specification of the questionnaires. Most coding is built into the documents, and as long as contractors faithfully adhere to these formats, there should be no insurmountable problems in creating a workable information base for this evaluation. Research designs like this one, however, hinge on matters of detail. We expect that many small difficulties will be encountered. A written study design cannot possibly cover them all without becoming very lengthy. Instead, the staging visits are proposed as a way to resolve most of these matters.

The work of handling the study data involves several steps: coding information obtained in the field; keypunching and tabulating the answers; transmitting information from the country contractors to AID/W and its U.S. contractors; and assembling and analyzing a global data file for the evaluation. Each of these is treated below.

A. CODING

A major difference between this design and most prior cross-national evaluations is that we have attempted to specify over 90 percent

of all codes in advance, building them directly into the data forms and interview schedules. Remaining coding needs are fairly limited and are of several basic types:

1. Most of the forms include "derivations," that is, pre-specified transformations of other questionnaire items into scales, standardized scores, and so on. All of these are fully described in Section III. Space is allocated in every form for these derived measures; the actual transformations can be made in the field or later by country contractor home office staff.
2. There are a number of items which can be pre-coded but for which exact wording should be worked out during the staging visits. Examples include tribal/ethnicity codes, food staples, codes for student marks or grades, and lists of objects owned by families. In all such cases, these codes are to be settled during staging; thereafter those questions can be treated like most others in the forms.
3. There are items for which a pre-coded list of answers is provided, followed by an "Other--please specify" option. We do not expect open-ended answers in such cases to be coded (that is, categorized and new number codes assigned to each category). We do expect that lists should be drawn up of all responses to these "Other--please specify" options, and that the list should be divided up by major respondent types. For example, the country contractor should supply a list of "other MCH services" reported by current enrollees and another list of those services reported by former enrollees.
4. Finally, there are a few items which do require coding of open-ended data into categories. The major requirement is for treatment of the twenty-four hour recall questions on foods eaten by students, and foods prepared by mothers. These data must be translated into estimates of dietary adequacy, drawing on nutritional expertise as described in Section III. This procedure will take place twice, at the country level and again at the global level, as a check and a means of introducing a second judge of the data. A few other items may require coding by country contractors if no satisfactory solution to pre-coding possibilities can be worked

out during the staging. For example, if the names of other MCH programs cannot be anticipated in advance, it may be easier simply to create codes for these after the field teams have completed their work.

Country contractors should note that most of the coding and all of the keypunching requirements apply only to mothers' and school children's questionnaires; all other documents are limited enough in number to allow analysis to proceed by working directly from the documents themselves, at both country and global levels. Thus, for all data schedules, except those for mothers and school children, English translations are required.

Coding, by its very nature, is a task which does not lend itself to decentralized study procedures. This is why the design takes the form that it does. Wherever the number of data schedules needed is fairly small, we have opted to work directly from field team reports and eliminate codes altogether. The baseline, MCH administrator, headmaster, and teacher forms have been constructed with keypunching in mind, to ensure that data obtained can be transferred to machine records. But there is no need to require that this transferral be made by country contractors; instead, it can be made centrally at the global study level. And where the number of data schedules is large, the design opts for questions which are almost entirely structured in advance.

B. KEYPUNCHING

Country contractors are required to produce keypunched cards for the data in the student and mother questionnaires. All punching must include key verification. Approximately three to four thousand cards are required, many of which will be only partially punched. Each data deck is designed to contain information for specified types

of respondents (e. g., mothers of school children), and the uniform ID code structure will permit matching all cards for a particular mother with corresponding information on her children. These ID codes, specified in the first 14 columns of the questionnaires, must be reproduced in the same location for all cards punched for a particular respondent.

The questionnaires use the device of multiple punching, that is, questions for which more than one response is permissible and in which these responses are coded with a series of numbers all punched into the same column of an IBM card. Multiple punching permits considerable shortening of the data decks, simpler programming in instructions at the global level of analysis, and a more straightforward treatment of questions which call, substantively, for multiple answers. Key-punchers must understand this type of punching. More important, country contractors who expect to use electronic data processing equipment should be aware that most existing general-purpose computer systems will not read multiple-punched codes. See the discussion on tabulation below.

C. COUNTRY CONTRACTOR TABULATIONS

The design is such that no country contractor is forced to use computers. All local tabulation can be done with equipment no more sophisticated than mechanical tabulators (such as IBM card counters). This equipment can handle multiple punches as long as the operator remembers to select only particular codes for each run. Indeed, the analytic requirements at the country contractor level can probably be handled with purely manual tabulations, if the contractor prefers.

Should the country contractor contemplate the use of computers, the following advice should be carefully considered. First, this design is highly computer-oriented, but in a rather special way. It assumes that all processing at the global level will utilize existing hardware/software systems which are designed and operated for the sole purpose of treating survey data. Such services are available at only a very few locations anywhere in the world. Even the better university computer centers cannot match the survey processing capabilities of specialist private organizations in low cost, speed of delivery, and sophisticated off-the-shelf programming. In almost every case, other computer installations will not even be able to read the data because of the existence of multiple punches. Alphanumeric capability is no substitute here, because (for example) no alphanumeric code exists for the combination of punches 1, 2, 3, 4, 5 all in one column--a combination which can occur in this study.

If country contractors can obtain the use of computer systems which are able to handle the data generated by these questionnaires, there is certainly no reason why they should not make use of them. But no contractor should contemplate the creation of custom hardware or software for this job. The size of the country contracts will not permit this, and even if that kind of money were available for the study, time constraints will not permit the months of delay which would be required to write, test, and debug programs at this level of complexity.

D. ANALYTIC PROCESSING AT THE COUNTRY LEVEL

The processing work which must be done to support the analytic requirements for country contractors outlined in Section V is fairly

simple. It is assumed that information on baseline, MCH administrator, headmaster, and teacher forms is used "as is" or tabulated by hand. Information on students and mothers may also be tabulated by hand, or may be handled with mechanical card sorting equipment. As long as all tabulations are done separately for each combination of major respondent group and site location, aggregations of the data can be calculated manually. A careful tabulation plan should ensure that no item need be run more than once, with thorough accounting of non-responses to ensure that checks on accuracy are built into the process.

The format of tabulations and their manner of presentation is a matter of some discretion in social science practices. Some uniformity is desirable across all countries in order to assist later global analysis. Conventions can be discussed in detail during the staging visits. The literature of the social sciences also provides some guidance. A particularly good discussion is available in the Population Council's manual for KAP surveys.¹

E. SUBMISSION OF COUNTRY CONTRACTOR DATA PACKAGES

No later than nine weeks following the departure of the staging team, the country contractor must submit an interim package of forms and data to the USAID mission for immediate transmittal to AID/W.²

This package will include all of the following:

¹ See Caldwell, *op. cit.* A detailed presentation of processing and tabulation problems is provided in this monograph (pp. 121-128).

² Some study teams in developing countries report restrictions on the export of questionnaires or other data, or even cases where customs inspectors take cards out of packages as "samples" of the material being sent. We rely on the USAID mission to field such problems.

1. Copies of completed and translated data forms and schedules for:
 - baseline data at each site;
 - MCH administrators;
 - school headmasters; and
 - school teachers.

Originals of these forms may be held by the contractor for later submission, to assist completion of his analysis.

2. A set of keypunched and verified IBM cards for data in the student and mother questionnaires. Duplicate cards may be retained and no copies of the forms themselves at this time. Retained materials will be submitted by the end of the twelfth week after staging.
3. A complete listing of all "Other--please specify" responses, by major respondent groups; other code adjustments; and final codes adopted for 24-hour recall and other items treated by the country contractor. The full coding descriptions for these last items must include a complete listing of all responses on the original questionnaires, translated to English, with frequency counts for each response, and an indication of the category to which each response has been assigned by the contractor's coding personnel.

No later than twelve weeks following the departure of the staging team, all remaining materials must be submitted to the USAID mission for immediate transmittal to AID/W. This includes:

1. Untranslated copies of mother and student questionnaires;
2. Field team diaries; and
3. All required country contractor reports, in English, including the analytic materials described in Section V, below.

F. QUALITY CONTROL: CONTRACTOR REPORTS TO USAID

It is essential that the study timetable be followed. To help monitor the country contractor's progress, we call for a weekly review by USAID mission personnel of country contractor progress. To the extent that this review can include actual checks on field team activities and detailed assistance in ironing out problems, the study's chances of success will be considerably enhanced. To assist this, a checklist of study milestones is provided to guide USAID staff. If it seems that the contractor is experiencing difficulty in adhering to any of these criteria, AID/W should be immediately notified by cable so that corrective steps can be taken. These steps could include modification of timetables (a last resort, but one which may be needed if the project simply proves to be too demanding), provision of material or manpower assistance (a good country contractor may experience difficulty in obtaining needed support services, a problem which might be treated with USAID's help), and provision of additional assistance from AID's U.S. contractors.

The checklist, then, serves as an early warning device. The milestones are these, beginning with the selection of the contractor:

1. Four weeks before staging: does the contractor have any need for reference materials or technical advice which can be provided by mail from Washington?
2. Three weeks before staging: has the contractor assembled a final list of possible field team personnel? Are sufficient personnel available to do the study (at least 10, preferably 15)? Are document translations complete? Has the contractor begun to draft materials for background purposes (See Section II, subsection C-3)?

3. Two weeks before staging: is field team selection complete? Has pre-testing of field instruments been carried out? Are background materials drafted? Has contractor begun obtaining preliminary site selection data? Have initial contacts been made for staging visits?
4. One week before staging: Has preliminary training of field teams been completed? Has site selection data been obtained? Are appointments complete for staging? Are draft reproduction masters of all forms and documents ready? Are all other needed materials in hand? Has transportation for field teams been arranged?
5. One week after staging: Are field teams in place?
6. Two weeks after staging: Have all baseline, headmaster, MCH administrator, and teacher interviews taken place? Have all samples been selected? Are field team diaries up-to-date?
7. Three weeks after staging: Are all student interviews and measures complete? Are interviews with school mothers underway? Are translations of baseline, headmaster, MCH administrator, and teacher forms complete?
8. Four weeks after staging: Are school mother interviews complete? Are MCH mother interviews underway, and how many have been made? Are field diaries up-to-date?
9. Five weeks after staging: Is all field work complete?
10. Six weeks after staging: Are all derivations complete? Is all other coding underway? Has contractor provided an accounting of adherence to the design by field teams-- number of interviews, etc.?
11. Seven weeks after staging: Is all coding complete? Is keypunching underway? Have translated digests of field team diaries been completed, for the contractor's final report?
12. Eight weeks after staging: Is keypunching complete? Have mini-studies begun (see Section V)?
13. Nine weeks after staging: Is the interim data package ready for transmittal?

14. Ten weeks after staging: Are mini-study tabulations complete? Has contractor begun final report drafting?
15. Eleven weeks after staging: Are mini-studies complete?
16. Twelve weeks after staging: Is final data package, including the contractor's final report ready, for transmittal?

Contractors will probably modify the scheduling implicit in these questions. This can be done, but during the staging visit, agreement must be reached on these milestones by contractors, USAID personnel, and the staging team. The listing implies several other things which must be made explicit. It is expected that the country contractor will provide continuing overall supervision of field team performance at all sites, including random checkbacks to see that interviews reported have been actually made. This is standard procedure for any survey and we see no reason to relax the rule here. Where possible, USAID personnel should participate in these checks. We emphasize such controls, not out of any particular sense that contractors might act in bad faith, but rather out of an acute awareness that the design is very demanding and should provide for assistance and help when field teams run into difficulties. Outright malperformance in survey work is a relatively rare thing these days (although it does occasionally occur). But often an overworked field team may simply feel that it has to cut corners in order to get the work done. Rather than let this happen and, worse, let such performance go unreported, we prefer to establish continuing monitoring so that extra resources or time can be provided if they are needed. After all, there is little point in conducting the study if the data cannot be trusted. The list of milestones is provided so that USAID personnel can obtain some sense of progress and know when

to call on AID/W for help, for the benefit of the country contractor and for the sake of the evaluation itself.

Based on these guidelines, the USAID mission should submit weekly reports to AID/W on the progress of the country contractors. The cable costs are minor, considering the benefits in protecting AID's overall investment in the project. Adherence to this procedure will permit relatively rapid technical monitoring by AID's U.S. contractors and the possibility of providing technical advice on a global level while the work is underway.

V. ANALYZING THE EFFECTS OF CHILD FEEDING PROGRAMS

Again, methodology rears its ugly head. We did not begin with the intention of writing a treatise on methodology. Appearances to the contrary notwithstanding, we have tried to limit the presentation of methodological problems to the very minimum necessary for the critical reader to grasp the rationale of our procedures. The truth of the matter is, however, that many an issue ordinarily treated only verbally...turns out to hinge on principles of methodology as soon as we consider how the issue could conceivably be resolved by empirical inquiry.

--Otis Dudley Duncan¹

First, let us understand that the state of evaluation research is some years behind that of the parent social science disciplines-- primarily sociology--on which evaluations traditionally draw. To the extent that this gap can be reduced, the analytic power and practical usefulness of evaluations will be substantially enhanced. This is especially true of evaluations in the nutrition field.

Why should this gap exist? Many explanations probably apply. First, no actual field study can duplicate the neat, tidy world of theory. Grubby problems of data availability, funding constraints, and schedules intervene. Second, many of the available methodological options are so

¹From an unpublished first draft of Duncan and Peter M. Blau, The American Occupational Structure. Used with permission.

new that there has not been sufficient time for diffusion into applied research areas like program evaluation. For example, path analysis is now a fad in academic sociology, but applications of this method outside the journals are practically unheard of. Other potential approaches, like detection theory, Bayesian statistics, and uncertainty analysis are so new in the behavioral sciences that even scholarly applications are rare. Third, even among qualified researchers, really thorough understanding of the more mathematical analytic procedures is still uncommon.¹ Fourth, there is in evaluation as in any other field a regrettable tendency for substitution of familiar and easy approaches for the more difficult and unfamiliar ones. This sometimes takes the form of dismissing real-world problems while hiding behind a smokescreen of jargon and mechanical applications of textbook statistical analysis--what sociologist Alvin Gouldner has called "high science methodology."²

This research design is predicated on a determination to make good use of the methodological opportunities which now exist for program evaluation. The analytic plan draws both on older and newer techniques, attempting to find an optimal methodological response to the questions which have been posed by AID. The plan calls for both quantitative and qualitative approaches, for quasi-experimental comparisons, and for the use of relatively complex kinds of multivariate analysis. It calls for extensive work on the part of country

¹George W. Bohrnstedt and T. Michael Carter, "Robustness in Regression Analysis," in H. L. Costner, ed., Sociological Methodology 1971 (San Francisco: Jossey-Bass, 1971).

²In his The Coming Crisis of Western Sociology (New York: Basic Books, 1970), pages 54-60.

contractors, because we believe that good country contractors will not be content with a subsidiary role in this study. At the same time, the design calls for an overall global analysis of the data. The key analytic unit is the mini-evaluation of program effects at a single site, conducted by the country contractor along lines specified in this section of the report. At the same time, the sharply defined mini-evaluation provides a common basis for later comparative analyses at national and international levels.

A. IMPRESSIONISTIC ANALYSIS BASED ON FIELD TEAM DIARIES

In addition to the quality control functions outlined in prior sections of this report, the field team diaries provide a place for recording qualitative information for the study. The treatment of such data will be necessarily unstructured, but we can provide some minimal guidelines. First, the issues of this evaluation can be addressed in an anecdotal fashion through recounting case histories of program experience. Sources for such case histories will include program administrators and others in the field, and evidence provided by such sources can be double-checked through both the more structured field work and by informal inquiries made by field teams while they are on the site.

Second, the field team may discover unique or unforeseen factors which could have major effects on a program's impact. For example, although we urge that sites be selected which have not been subjected to really violent shifts in their exposure to epidemics, in their harvesting yields, or in population movements, still such forces will affect programs in most if not all sites and must be tracked in order to fully understand any changes which programs seem to have produced over time. The list of other possible concerns is very long and includes political issues--

for example, why was a program school selected, while the control school was not selected, for inclusion in the feeding program? The best way to pick up such data is to require that field teams be alert and that all interviews and discussions related to the study be digested and recorded in the team diaries. In addition, interviews may occasionally turn up quotable comments, which should be entered verbatim because such material can add considerably to reader interest in a final report.

The field team diaries will be a required part of the country data package to be submitted to AID/W (see Section IV, above). They will also provide information for country-wide analyses and their use is to be encouraged at all other levels of evaluation in this project. The evaluation literature contains very little guidance or advice on the use of impressionistic approaches, which are often (and unjustly) rejected out of hand as if they are beneath notice. We would suggest the work of Erving Goffman for starters.¹

B. MINI-EVALUATIONS OF PROGRAM EFFECTS AT A SINGLE SITE

An ultimate goal of this evaluation is to create a system in which AID and other supporters of child feeding can begin to size up the overall usefulness of these programs at national and international levels. This does not mean, however, that program assessment at the local site level

¹ Asylums, available in paper (New York: Doubleday, 1961), contains a number of provocative essays in social analysis done almost wholly through informal participant-observer methods. See especially his work on medical models (pages 321-386).

can be passed over. A frequent failing of much program evaluation work has been to aggregate data from many local projects to a national level, and then attempt a single overall analysis. This can have the effect of "averaging out" the positive impact of good projects and the negative impact of not-so-good ones, so that the program as a whole seems unworthy of support.¹ Such a conclusion can be "true" in the sense that it may fairly report that national efforts do not seem very productive. But this is a very misleading truth. It suggests, if conclusions are not very carefully qualified, that the overall program is uniformly unproductive, while in reality some projects may be doing fairly well while others may not. Such evaluations encourage administrators to cancel programs when better alternatives may exist: for example, shifting support to projects which perform well.

It is for this reason that this design stresses the review of program impact at the site level as well as aggregated analysis of national and international effects. The overall aggregated studies have an important role to play in this evaluation. For one thing, only at these levels will the data base be large enough to detect more subtle kinds of program effects and to permit more complex kinds of multivariate manipulations of the information. On the other hand, calling only for analysis at the country-wide and international levels is to run a large risk of arriving at premature and misleading conclusions.

The requirement for site-by-site analysis has had major effects on this design. In particular, it leads to the specifications set forth

¹For a case in point, see Walter Williams and John W. Evans, "The Politics of Evaluation: The Case of Head Start," in Peter H. Rossi and Walter Williams, ed., Evaluating Social Programs (New York: Seminar Press, 1972), page 257.

in the introduction (Exhibit 4) for the numbers of cases to be obtained. For example, we call for 20 students to be sampled in each of two grades, at the program school and again at the control school. More cases could stretch field work loads to unacceptable levels; less would fail to provide sufficient data at the study site level. In general, the analytic situation for the site-level evaluation is more akin to that found in psychological studies of small groups than it is to traditional evaluation surveys. The small size of site study case bases will require relatively strong program effects to be present if the findings are to be statistically significant.¹ However, non-significant results should not be thrown away. They may be suggestive and can be explored further by using the larger aggregated country and national data pools.

The mini-evaluations at each site are to be carried out by country contractors using the predetermined approach outlined below. All four evaluation issues are to be reviewed; this generates six study topics because health and nutrition attitude effects must be treated separately

¹As a pessimistic example, take a comparison of third grade children in program and control schools. The design will detect differences ($\alpha = .10$) on a percentile basis of $\pm .30$ in the least advantageous case-- that is, where the population mean is exactly .50. For other population means the width of the non-significance interval will narrow. With correction for sampling from a finite population--the total number of third grade pupils in these schools--this interval will further narrow. For example, given 200 third grade pupils in each school, it becomes $\pm .25$ for a .50 population mean. This is the only point in the design where statistical significance presents much of a problem; with the larger numbers of cases available in country and global analyses, any simple association is likely to prove to be "significant" in the statistical sense, even if it is substantively trivial.

for the MCH programs. The procedure in each case is to carry out a simple quasi-experimental comparison, and to report a series of control data values in order to establish the comparability of groups. These data will not provide final answers to the study issues. Rather, they represent an initial trial analysis. We do not want analysts to simply run through the required mini-evaluation, tabulate the results, and stop; instead these studies should be regarded as a jumping-off point. The analyst should inspect the results and then attempt to provide an interpretation of what the data mean, using other information in the field studies, impressionistic findings from the diaries, and so on. If in the analyst's judgment the data by themselves seem to fairly reflect the actual situation in the field, then he should provide evidence for his convictions and suggest further analyses to support his views. The same procedure applies if the data seem misleading.

To provide an example, suppose that children of mothers currently enrolled in MCH programs seem to be healthier than those of mothers not enrolled, but that a look at the control variables show that the MCH mothers are higher on socio-economic variables like family income or education. We would expect the analyst to call attention to these outcomes, at minimum. He might also be able to shed some additional light on these results. In the present example, if a case can be made that better education increases a mother's interest in participating in MCH, then we would be led to suggest that the program might be a necessary intervening condition which could make a substantial contribution to better health. On the other hand, if more education seems to lead mothers to care better for their children, whether or not they participate in MCH, then the effects of the program might be "spurious" --that is, they may be due to prior education and not to the MCH effort

itself. On the mini-study level, data analysis which controls for the effects of other variables like education cannot be done with simple tabulations, because the number of cases is so small. It can be done with multiple correlations, however, or it can be earmarked for further analysis at country or global levels. This is an excellent illustration of both the advantages and the pitfalls of statistical evaluation approaches, and should underscore once again our insistence on the search for every scrap of information, quantitative or impressionistic, which the field team can unearth about these programs.

To provide some comparability for the site studies, a suggested reporting format is provided (Exhibits 6-11) for each of the six research topics. Our assumption is that country contractors will complete a set of schedules for each study site. They will then append to the schedules a written commentary discussing the data and providing such additional analyses as they may be able to generate. Given five sites per country, this calls for a total of 30 separate mini-studies--a large number, and a primary reason for keeping this work fairly simple and limited.

The exhibits follow on the next six pages. Some commentary on each mini-evaluation topic, with instructions on common treatment of statistical data, is included below.

1. Comments on the Mini-Evaluations: MCH Health Effects

Exhibit 6 outlines the basic approach. Field teams are required to take the age, weight, and height of the two youngest children, excluding infants 6 months of age or younger, of mothers in the samples of current MCH enrollees, former enrollees, and those never enrolled. These health measures are converted into standard scales

EXHIBIT 6

Mini-Study Reporting: Effects of MCH Programs on Children's Health

Comparative Data: Averaged Health Measures for All
Preschool Children, by Program Status of Mother

Data for Children Whose Mothers are...	Mothers With No Exposure to Program	Current Enrollees	Former Enrollees	All Children
<u>Mean Derived Score for:</u> Weight for Age Weight for Height Height for Age				
<u>Control Data:</u> Mean Age of Mothers Mean Years Formal Education for Mothers Mean Family Income for Mothers Mean Family Size for Mothers Percent of Families in Dominant Tribal or Ethnic Groups Percent of Mothers Who Work Outside the Home During the Day NOTE: ALSO CONSIDER, AS CONTROLS, THE COMPARATIVE DATA VARIABLES ENTERED ON EXHIBIT 10, FOR NUTRITION/HEALTH ATTITUDES AND BEHAVIOR				

on Mothers' Nutrition/Health Attitudes and Behavior

Comparative Data: Averaged Nutrition/Health Attitude and Behavior Measures, for Current MCH Enrollees, Former Enrollees, and Controls

Data for Mothers:	Mothers With No Exposure to Program	Current Enrollees	Former Enrollees	All Mothers
<u>Mean Mothers' Scores:</u> Nutrition Attitudes Scale Nutrition Behavior Scale Sanitation Scale				
<u>Control Data:</u> SAME AS EXHIBIT 6 (MCH HEALTH EFFECTS) BUT EXCLUDING HEALTH ATTITUDE/BEHAVIOR ITEMS, ABOVE				

EXHIBIT 8

Mini-Study Reporting: Effects of School Feeding on Children's Health

Comparative Data: Averaged Health Measures for All School Children, by Grade and School					
Data for Children:	First Grade		Third Grade		All Children
	Program School	Control School	Program School	Control School	
<u>Mean Derived Score for:</u>					
Weight for Age					
Weight for Height					
Height for Age					
<u>Control Data:</u>					
SAME AS EXHIBIT 6 (MCH HEALTH EFFECTS) BUT USING DATA ON MOTHERS OF SCHOOL CHILDREN. NUTRITION ATTITUDE/BEHAVIOR MEASURES MAY BE EXCLUDED. ADD:					
Percent of School Mothers With MCH Exposure					
Yes/No: Does School Have a Garden?					

EXHIBIT 9

Mini-Study Reporting: Effects of School Feeding on the
Nutrition/Health Attitudes/Behavior of the Children

Comparative Data: Averaged Scores on
Attitude/Behavior Scales, by Grade and School

Data for Children:	First Grade		Third Grade		All Children
	Program School	Control School	Program School	Control School	
<u>Mean Scores for:</u> Nutrition Attitudes Nutrition Behavior					
<u>Control Data:</u> SAME AS EXHIBIT 8					

EXHIBIT 10

Mini-Study Reporting: Effects of School Feeding on Enrollment

A. Comparative Data on the School as a Whole:

1. Matrix for Propensity to Attend, derived from enrollment/attendance data form, for program and control schools
2. Combined enrollment totals for grades 1, 2 and 3, for the school years 1969-70, 70-71, 71-72, and 72-73, for both schools

Controls on These Data: All applicable entries on headmaster and enrollment forms, including tuition charges, date feeding program began, etc.

B. Comparative Data on School Children in Samples:

Data on Children:	First Grade		Third Grade		All Children
	Program School	Control School	Program School	Control School	
Mean Propensity to Attend Last Month, For Sampled Pupils					
Control Data: SAME AS EXHIBIT 8 (SCHOOL GARDEN AND MCH EXPOSURE OF MOTHERS MAY BE OMITTED). ADD: Average Time Child Takes to Come to School					

EXHIBIT 11

Mini-Study Reporting: Effects of School Feeding on Performance

Comparative Data on School Children in Sample;					
Data on Children:	First Grade		Third Grade		All Children
	Program School	Control School	Program School	Control School	
Averaged Standard Score for Achievement Tests					
<u>Control Data:</u> SAME AS EXHIBIT 8 (SCHOOL GARDEN AND MCH EXPOSURE OF MOTHERS MAY BE OMITTED). ADD: Average IQ for children Average Grades (marks) for children Average Propensity to attend, for children Average Training of Teachers					

through the derivation procedures described in Section III. Then, in the mini-study, the standard health measures for these children are averaged to permit comparisons among the three MCH groups. This brings us to a standard reporting requirement for all country contractor analytic work. In order to facilitate secondary analysis of the data, all analytic material should provide full accounting for case bases, no answers, and so on. In the event of any uncertainty about reporting conventions, the literature of survey research provides some guidance, and further assistance can be provided during staging visits.¹

The control variables are to be used to verify the comparability of the groups which are used in the analysis. The package of family background data, which comes from the mothers' questionnaires, provides a basic set of social and cultural indices. This package is used in all six mini-studies, augmented occasionally by other items as required by the particular study issue at hand. For MCH health effects, we judge that the nutrition education and nutrition attitude/behavior effects of MCH, treated as a dependent variable set in Exhibit 7, should serve as a control on health effects themselves.

2. MCH Nutrition/Health Attitudes and Behavior

Here, the standard mini-study plan calls for three simple measures, all taken from responses by mothers, grouped across MCH sample types as above. The nutrition attitudes and nutrition behavior scales are derivations of questionnaire materials and are simply averaged for the groups in this analysis. The same treatment applies to the simpler sanitation habits scale. Controls follow those specified for MCH health effects--simply the "basic package" of social and

¹For example, James A. Davis, Conventions and Strategies for the Presentation of Percentage Tables (Chicago: National Opinion Research Center, 1965). A more general discussion will be found in Caldwell's manual for KAP surveys (op. cit., pages 172-182).

cultural measures. One additional source of information might be used: the responses of mothers of school children to these items, not depicted in Exhibit 7. These may serve as an additional control group or might be further separated into women and without MCH exposure.

3. School Feeding Health Effects

The mini-evaluation approach (Exhibit 8) shifts somewhat for the school feeding analyses. Rather than comparisons by exposure to the program, the design calls for a four-way comparison of first and third grade children in program and control schools. The same health measures are used as were called for in the mini-evaluation of MCH health effects, but here the data source will be measures taken at school and recorded on children's data schedules. Similarly, the source of control data shifts to questionnaires taken from the mothers of school children. The same "basic package" of controls is used, augmented by the percent of school mothers with MCH exposure--a factor which could also affect these children's health--and a simple yes/no entry to denote whether or not the school has a garden.

4. School Feeding Effects on Nutrition Attitudes and Behavior

The design is closely allied to that used for school feeding health effects. Only two dependent variables are used, both from the children's questionnaires: the derived scales for nutrition attitudes and nutrition behavior. Note that in this case, we are inspecting effects of the program on pupils, not on habits and actions of mothers (as was the case for the examination of MCH nutrition education effects). The controls are the same as those used for school feeding health impact, (see Exhibit 9).

5. School Feeding Enrollment and Attendance Effects

The mini-study design shifts considerably here to allow for the treatment of enrollment data for the school as a whole. Items from the school enrollment forms provide a check into overall effects, if any, of the feeding program on annual enrollment and on the propensity for students to attend. As long as program schools are selected in which feeding was instituted around 1970, as suggested by the site selection criteria provided in Section II, then before/after comparisons will be possible for both program and control schools. This is as close as the study gets to a pure experimental approach, and here the strategy must be regarded with caution because of expected difficulties in obtaining reliable retrospective data. The mini-study approach also calls for noting the averaged propensity to attend from the children's school questionnaires (a somewhat different index which applies to attendance during the past month), and requires that the "basic" socio-cultural package be considered once again, plus additional data on how much time children take to get to school (Exhibit 10).

6. School Feeding Effects on Performance

In this case, the mini-evaluation returns to the format of other school feeding issues. Only one dependent variable is called for: the averaged standardized test scores of the sampled children. The control data is similar to that used elsewhere, augmented by information on children's IQ (if it can be obtained), grades or marks (as a check on the possibility of sampling a group of particularly bright children within the class), the averaged propensity to attend for the children (used as a measure of basic enrollment effects in Exhibit 10), and the training of teachers (Exhibit 11).

A few notes should be added about the composition of those control variables which have not been specified as derivations before. Formal education systems will vary from place to place, which is why the questionnaires ask for years of formal schooling completed and not for categories like "grade school" or "high school." Responses can then be averaged to provide data which is at least roughly comparable throughout the global study. Teacher training can be handled in the same fashion. Grading systems will also vary from place to place; grades should not be converted into standard scores for the sampled children; this would eliminate their usefulness as a check on sample validity. Instead, we have assumed that grading systems will at least tend to be constant in a given site between program and control schools. If this is not the case, some conversion will have to be made and reported. Conversion conventions will need to be uniquely established in each country to allow for use of French, English, or other grading systems.

We assume that country contractors will be familiar with most of the kinds of detailed problems of data treatment which we treat here. Our specification of detail is needed to help ensure that these mini-evaluations are conducted in a reasonably consistent fashion throughout the entire study. Staging visits will enable further standardization of these approaches. And we should stress again that the mini-evaluations are a starting point, not an end, to both site-by-site analysis of the data and to further country-wide and global reviews. The questionnaires and other data sources of the study provide a large number of measures of program effects and controls which are not mentioned at all in Exhibits 6-11. Some of these offer opportunities to refine our knowledge

of feeding program effects; some are checks on the validity and reliability of other indicators; some are open-ended measures (such as the twenty-four hour recall questions) which do not lend themselves to a predefined treatment. What the mini-evaluations are expected to do is to provide a starting point for the use of these other data, a starting point which can be handled at the country contractor level while still providing fairly consistent information across the board.

C. COUNTRY ANALYSIS

One task is required of country contractors at this level: a comparative review of findings from the five sites. This is expected to take the form of rankings, simple classifications of programs into dichotomous categories (such as "more" or "less" effective), and a thorough narrative treatment which can serve as a digest of the data obtained in field team diaries.¹

Second, the contractor is invited to provide an analysis based on aggregating the field data from all sites. The design deliberately leaves the choice of approaches up to the country contractor; some possible approaches include simply aggregating mini-study data and replicating those efforts for the country as a whole; utilization of an impressionistic approach, drawing on the quantitative data pool as needed; or designing some altogether different strategy than any of those listed here. We are particularly interested in efforts of the last type, since they offer an opportunity to see what other researchers can do

¹ A study which suggests some ingenious approaches to the rigorous treatment of extremely small case bases--the site comparisons comprise, in effect, a five-case analysis--is Robert L. Crain, The Politics of School Desegregation (Chicago: Aldine, 1966).

with the problems of analysis which are presented in this study. We have not required a country-wide aggregate analysis because most potential contractors may have enough difficulties in simply completing the field work, doing the mini-studies, and reporting comparative mini-study results. On the other hand, a good contractor might want to go further, and if his organization and management is good enough to permit additional work within the time constraints of the project, then this ought to be encouraged.

The substantive emphasis of the country studies, whether site comparisons or more ambitious aggregated analysis, should be on explaining food staple, medical, socio-economic, cultural, and other regional variations. To the extent that overall program effects emerge, these should be identified and confirmed. If negative findings are present--the lack of positive effects--these should also be scrutinized and explained. It is particularly important that the country contractor report fully on any weaknesses of the original design and on the efforts he may have made to overcome these weaknesses. It is not necessary that contractors use every data element available in the forms, questionnaires, and data schedules. But it is expected that, at minimum, consistency checks will be run among the sets of different measures of common effects--for example, among the socio-economic indices and among the several indicators of the mother's nutrition behavior, including buying habits, recall of foods served, and other items as well as those specified in the mini-evaluations.

D. GLOBAL ANALYSIS

The global analytic strategy consists of three tasks: a site-by-site comparison not unlike that carried out by country contractors, a cost review for all programs, and an aggregated treatment of data from the entire study. The 15-site review (for a three-nation study) will

follow the country analysis lines closely, being based mostly on rankings and simple comparisons of programs as a guide to detecting regional variations.

The second overall analytic task is a cost analysis, based on both general country-wide program costs, obtained in the staging visits by U.S. team personnel, and local program cost information contained in schedules for headmasters and MCH administrators. The objective will be to arrive at final cost indices per recipient-day of feeding, for national programs and for local efforts in every site, as an input variable to the ultimate final report.

The third task, the aggregated global analysis, can take a number of forms, depending on the quality of field contractor work and adherence to the study timetable. Thus, analytic planning must be flexible enough to be adapted to data of varying precision and quality. At minimum, the aggregated global analysis should be able to adapt the mini-evaluation approaches, enlarging the number of measures and controls used, and making use of the large number of cases in the aggregated data pool to confirm or reject the existence of smaller program effects. The presence of regional or other control variations will make this a cumbersome task, but it can be done.

The preferred approach calls for a considerably more precise and sophisticated analysis. (An exception may be the analysis of enrollment effects. There, assuming the needed data can be obtained, the mini-study design closely approaches experimental standards and probably is about as good as any alternative.) Some options include analysis of variance, or the conversion of the data to a matrix of product-moment correlations and subsequent analysis of this

matrix through sociological path analysis, regression equations, or similar parametric means.¹

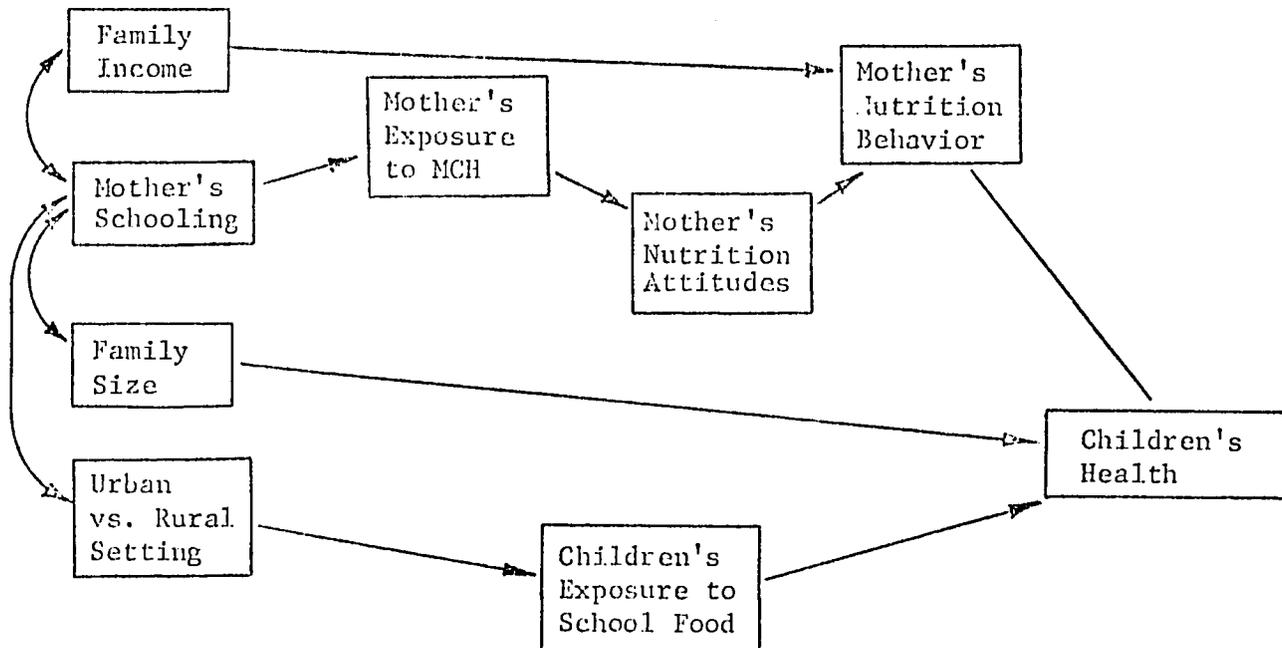
The advantage of the parametric approach is that it will allow the study to generate an analysis of feeding program effects which takes all controls into account including regional, cultural, and other factors. The approach will also force a very thorough consideration of the sensibility of the causal patterns implied by each possible conclusion. A third major advantage is that such methods lend themselves to concise reporting in a format which makes sense to readers who may not have technical research training. A fourth advantage is that these approaches are less expensive than are comparable tabular analyses.

Exhibit 12 provides a partial and quite tentative illustration of how such approaches can be brought to bear on the issues of this evaluation. The diagram illustrates one possible outcome of a regression analysis of the data, expressed in the form of a path diagram. The arrows depict significant effects and interactions among the items which have been used in the analysis. In this hypothetical example, all effects are positive, but there could also be negative effects (the higher the value of one item, the lower that of another). Possible interactions which prove not to be significant are omitted from the diagram; for example, the hypothetical analysis would not have uncovered any particular association between family size and the nutrition attitudes of a mother.

¹A very good selection of recent articles on these methods is available in each of the annual anthologies Sociological Methodology (San Francisco: Jossey-Bass, 1969, 1970, 1971). Any graduate statistics text, such as Helen Walker and Joseph Lev, Statistical Inference (New York: Holt, Rinehart, and Winston: 1953), will provide the basic statistical understanding which the parametric approaches demand.

EXHIBIT 12

Example of a Path Model Applied to School Feeding Health Effects



Notes on the Makeup of Variables:

1. Family Income: from mothers' questionnaires, converted to dollars
2. Mother's Schooling: same source, (years of education)
3. Family Size: same source
4. Urban/Rural Setting: Size of Place for school, from baseline form
5. Exposure to MCH: number of months, from mother's questionnaire
6. Exposure to School Food: 0-36 months (school type and grade level)
7. Nutrition Attitudes: scales from mother's questionnaire
8. Nutrition Behavior: scales from mother's questionnaire
9. Children's health: derived weight/height/age/sex scales

Some Conceivable Other Measures:

1. Measures of local food nutritiousness (for example, by community, using a nutritionist's judgment, based on 24-hour recall for school mothers)
2. Calorie value of the school feeding ration
3. Tribal/Ethnicity variables (dichotomized: for example, presence or absence of major food taboos)

Note: others are possible.

Suppose that the study data did give rise to the associations implied by Exhibit 12. What would we be led to conclude? Among other things:

education would seem to have an effect on nutrition knowledge and attitudes, but actual nutrition behavior would be conditioned by both attitudes (and thus by the MCH program) and by family income;

school feeding would seem to be more an urban than a rural program; and

children's health would be conditioned by nutrition behavior, school feeding, and family size.

Further: the analysis would generate measures of the relative strength of all of these effects, so that we could determine the incremental improvement in health which would be due to other factors, such as school feeding. It would also generate an estimate of the effect on health of all factors not taken into account.

This is not all. The example in Exhibit 12 depicts a particular outcome of the analysis--as it happens, a favorable outcome. The same analysis could generate a large number of results, all dependent on what the data have to tell us. For example, suppose that the path between exposure to school food and health drops out, and at the same time a new path is added between nutrition attitudes and health. This would suggest that school feeding effects are negligible and also that our measures of nutrition behavior are incomplete, because somehow additional benefits are being transmitted to children.

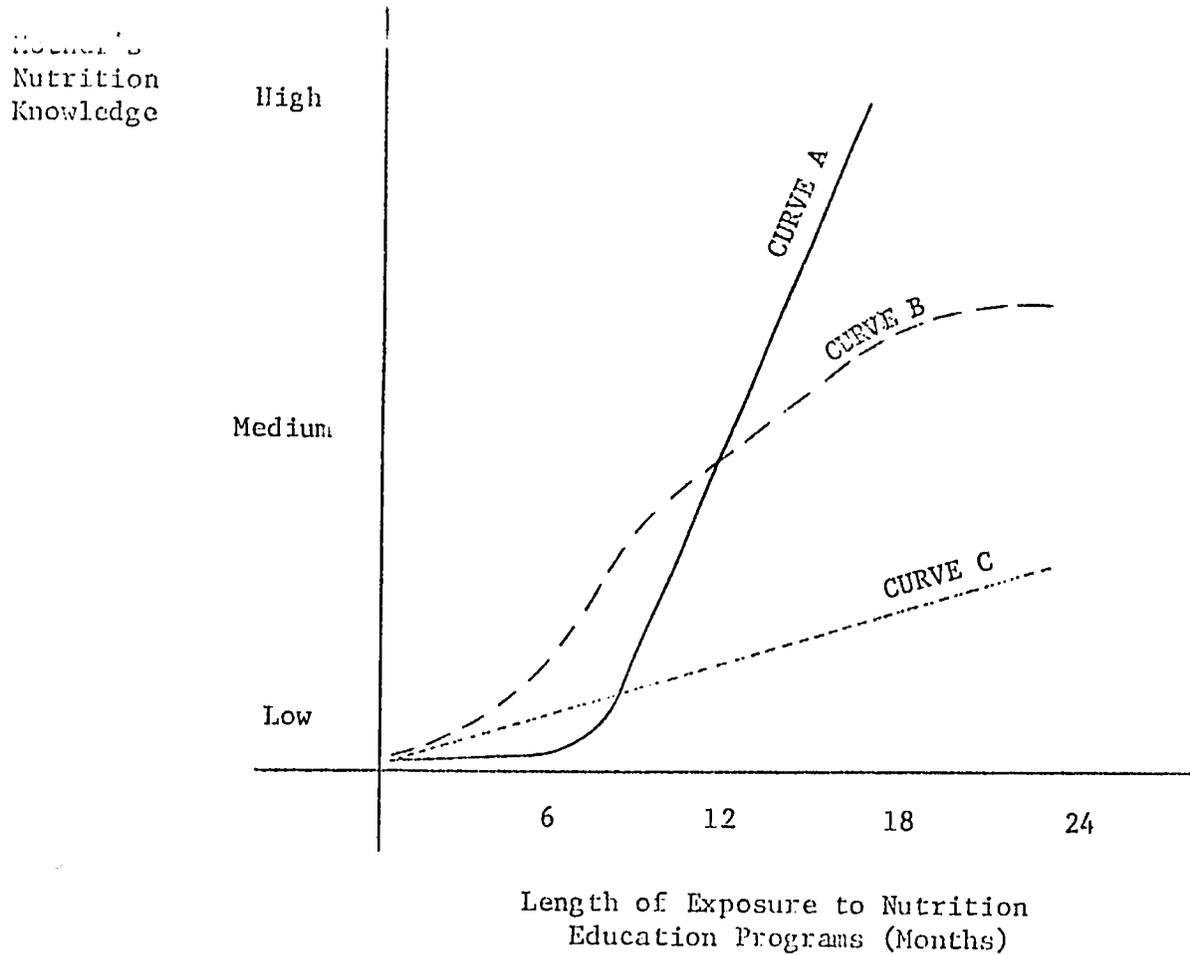
We should emphasize again that Exhibit 12 is provided as an illustration only. The study design will permit considerably more complex analyses; these are likely to depart in major ways from the relatively simple model depicted here.

The precision and explanatory power of methods such as these is very great. To carry out a comparable tabular analysis, using percentage distributions or other nonparametric methods, would be next to impossible given the size of this study. We estimate that at least 50,000 cases would be needed in order to retain significant case bases after cutting up the data five, six, or more different ways.

The specification of parametric methods causes some new technical demands to arise. The nature of relationships between most pairs of variables in this study is not known; at minimum we can expect that many of these relationships will not be even roughly linear. Take as an example the relationship between the length of exposure to MCH and a mother's nutrition attitudes and knowledge. Assuming that there is some relationship here--and surely there ought to be one--we still do not know if: (a) a certain amount of minimum exposure is needed to overcome tribal or cultural taboos, before any effects show up at all (see Curve A on the accompanying Exhibit 13); (b) effects fall off after reaching a point of diminishing returns (see Curve B); or (c) there is a steady and constant increase in nutritional knowledge per unit of MCH exposure (see Curve C). Only the last situation is linear and it strikes us as the least likely situation. The others are curvilinear and can be drastically affected by the coding of variables and by the makeup of scales. For example, if we considered only the first six months of program exposure and Curve A actually reflects reality, our analysis would erroneously conclude that there were no effects between programs and nutritional attitudes.

EXHIBIT 13

Three Possible Patterns of Association Between MCH Exposure and a
Mother's Knowledge and Attitudes about Health



Curve A--delayed response; minimum program exposure needed

Curve B--point of diminishing returns after main period of exposure

Curve C--slow and steady unit increase; linear (and unlikely)

The effect of this is to require that associations between pairs of variables be plotted on scatter diagrams or subjected to a computer-based polynomial curve fitting analysis. This will help the analyst determine the best mixture of scale codes, variable transformations, or other adjustments needed to ensure that the data are isomorphic: that they accurately reflect the real world. Once this is done, the correlation matrices can be generated and the model testing carried out. We would expect that a variety of analyses would be done, depending on which of the several study issues is under consideration.

E. FINAL REPORT

At this juncture, we have called for a very wide variety of analyses, including mini-studies of program effects within a single site, site-by-site comparisons within countries and on a global level, aggregated data analysis on a country and a global level, impressionistic and narrative reviews, and highly mathematical statistical treatments. The task of the final report is to combine all of these inputs into an overall assessment of the feeding programs. The design does not hinge on the success of any one analytic task but, instead, assumes that each approach can make a partial contribution to the overall evaluation conclusions. If any one set of tasks can be labeled crucial, we would nominate the field data gathering efforts and the initial mini-studies. These, in turn, are dependent on the quality of country contractors and on the ability of the U.S. partners to give adequate technical support and advice in this effort.

We envision a final report which is a relatively short document--probably between thirty to fifty pages. Major technical analyses would

be separated from this volume as separate appendices or special reports; these would include country contractor analyses, the global analytic reports, and this design study. The overall length of the final report plus these appended volumes would probably be several hundred pages.

APPENDIX A: DATA FORMS AND QUESTIONNAIRES

The baseline form and interview schedules for the evaluation are reproduced on the following pages, color coded as follows:

1. Baseline Form: Gold
2. Headmaster's Schedule: Blue
3. Teacher's Schedule: Green
4. Student's Schedule: White
5. MCH Administrator's Schedule: Pink
6. Mother's Schedule: Yellow

DATA FORM FOR SITE BASELINE INFORMATION

COMMUNITY _____

INTERVIEWER OR DATA COLLECTOR _____

I.D. Codes:
Country Code.....
Community Code....
Date Completed:
Day Month

COMPLETE THIS FORM IN ENGLISH OR PROVIDE
TRANSLATIONS OF RESPONSES

SECTION I: GENERAL SITE DATA

1. Where is the site and what are its boundaries? (*Outline site boundaries on map and attach it to this form. Write in the name of the area here and indicate in words where it is in the country.*)

2. What do most people in this area do to earn their living? Have these patterns changed recently?

3. How many persons lived in this area in 1965?*

, ,

How many persons live in this area now?*

, ,

How many households are there in this area now?*

, ,

*For each item, give the source of the data and note any major tribal, social class, or other distinctions among these people.

4. What is the average household* size?

□ □

What is the average annual household* income? (U.S. dollars)

\$ □, □ □ □

What is the average education level for adults? (years of school completed)

□ □

*Household is the same as family. For extended families, define household as all those who live and eat together.

5. If census data is available for this site, provide the following data. (If regional data is not available, use national data as a benchmark and estimate data for this area. If national data is used, note below and explain any allowances you made in applying those estimates to this area.)

	1965 (or other prior year _____)	1970 (or other recent year _____)
Births per 1,000 population:	□ □ □	□ □ □
Infant mortality per 1,000 population:	□ □ □	□ □ □
Deaths per 1,000 population:	□ □ □	□ □ □

Above data is based directly on data for this area: (check one)
Above data is based on national data:

6. Has this area been subjected to any major natural disasters during the past 5-6 years (for example, floods, famines, or epidemics)? If so, please describe the type of problem, the approximate number of lives lost, and other serious effects.

7. Have there been any major population increases or decreases in this area during the past 5-6 years, for reasons other than those listed in the above question. If so, state the reason and approximate size of the increase or decrease.

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SECTION II: HEALTH DATA

8. What percent of the population of this site has access to a potable water supply? (If 100%, write in "99") [] []

9. What percent of the population of this site has access to sewer facilities? (If 100%, write in "99") [] []

10. Are there any hospitals within the site area? Yes..... 1 No..... 2

IF YES:

How many? [] [] []

(Indicate hospital locations on the map.)

IF NO:

How far away is the nearest hospital? (kilometers) [] [] []

11. How many doctors work regularly in this area? [] [] []

12. How many registered nurses work regularly in this area? [] [] [] []

13. How many other medical or paramedical personnel work regularly in this area (such as midwives)? [] [] [] []

SECTION III: FOOD DATA

14. BASED ON FIELD TEAM VISITS TO MAJOR LOCAL FOOD MARKETS:

A. What markets did the team inspect? (Name and location)

B. Are high nutrition, processed food commodities commonly available in the markets (such as weaning foods or blended food supplements like CSM)?

Yes..... 1

No..... 2

IF YES:

What is available? _____

IF NO:

Are such foods available at all in the markets? Yes..... 1

No..... 2

If yes: Which ones?

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C. Are any of the following foods commonly available in these markets? (Circle as many as apply)

- Milk..... 1
- Eggs..... 2
- [VEGETABLE A]..... 3
- [VEGETABLE B]..... 4
- [MEAT]..... 5
- [GOOD UNPOPULAR FOOD].... 6
- [BAD POPULAR FOOD]..... 7
- [GOOD AVAILABLE FOOD].... 8
- [GOOD UNAVAILABLE FOOD].. 9
- [BAD AVAILABLE FOOD]..... 0

15. What are the food staples for this area? _____

16. What religious or cultural food taboos prevail in this area and among which classes of people?

17. Is food consumption fairly constant throughout the year, or are there strong seasonal variations? Please explain.

- Consumption fairly constant..... 1
- "hungry" season in the following months: _____ through _____ 2
- _____ through _____ 3

THIS IS THE END OF THE DATA FORM FOR BASELINE INFORMATION

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DATA SCHEDULE FOR HEADMASTERS

COMMUNITY _____

SCHOOL NAME _____

HEADMASTER'S NAME _____

INTERVIEWER _____

I.D. Codes

Country Code.....

Community Code.....

Institution Code...

Respondent Code.....

Date of Interview:

Day

COMPLETE THIS FORM IN ENGLISH OR PROVIDE
TRANSLATIONS OF RESPONSES

SECTION I: INITIAL INTERVIEW FOR ALL HEADMASTERS

1. How many grades are taught in your school? (*circle as many as apply*)

Grade 1..... 1

Grade 2..... 2

Grade 3..... 3

Grade 4..... 4

Grade 5..... 5

Grade 6..... 6

Grade 7..... 7

Grade 8..... 8

Grade 9..... 9

Grades 10-12 0

2. SHOW HEADMASTER THE MAP OF THE SITE AREA AND ASK FOR THE FOLLOWING INFORMATION.

A. Indicate on this map the boundaries of your school district.

(When the above boundaries are filled in, attach the map to this data schedule.)

3. How many persons live in this school district? (*Estimate*) _____

How many households are there in this school district? (*Estimate*) _____

4. How many children live in this school district who are in the age ranges covered by your school?
(Estimate) _____

5. How many children are enrolled in your school this year? _____

6. How many children of those who live in this school district are enrolled at other schools?

7. How many other schools are there in this school district? (Enter number)

8. What reasons are there for children enrolling in your school rather than other schools?
(Probe for such reasons as tuition, economic or social class, religion, and so on.)

9. What reasons, if any, are there for children enrolling in other schools rather than your school?

What are the reasons why some children do not enroll in school at all? _____

10. What is the furthest distance and what is the average distance that any of your students must travel to come to this school? (Kilometers)
Furthest distance....
Average distance.....

11. In what year did this school open? (Enter year)

12. How many teachers work in this school? (Enter number)

13. What does it cost each student to attend this school for a month?
\$.
(Write in local currency and later convert to dollars and cents _____)

14. What has been the capacity of this school for the past six years--how many students, at maximum, can be seated here at the same time?
Number of students school could hold in... 1967-68
1968-69
1969-70
1970-71
1971-72
1972-73

15. Has your school been visited during the past two years by national government or foreign officials? How many times?
Yes, once or twice..... 1
Yes, more than twice..... 2
No..... 3

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16. Do you separate classes within grades according to students' ability or according to any other criteria?

Yes..... 1

(IF YES: Note in field diary that grades must be sampled as a whole) No..... 2

17. Does your school require attendance for children?

IF YES: Yes, enforced..... 1

Is this policy enforced? Yes, but not enforced.... 2

No..... 3

18. Is there a school garden here?

Yes..... 1

No..... 2

IF YES:

Is the food from the garden eaten by the children in school or is it taken home?

Eaten in school..... 1

Taken home..... 2

Both..... 3

19. Do you keep any health records on students?

Yes..... 1

No..... 2

IF YES:

What information is kept? _____

TELL HEADMASTER THAT YOU MAY LATER WISH TO SEE THESE HEALTH RECORDS.

20. Do you keep records on students' IQ scores?

Yes..... 1

No..... 2

IF YES: TELL HEADMASTER THAT YOU MAY LATER WISH TO SEE THESE IQ SCORES.

21. What are the food staples in this area? _____

FOR THE CONTROL (NON-FEEDING) SCHOOL ONLY:

22. Can children purchase food at the school?

Yes..... 1

No..... 2

IF YES:

What kind of food is sold? Does someone sell...
(circle as many as apply)

...Hot lunches..... 1

...Cold lunches..... 2

...Snacks..... 3

...Other (specify)

_____ 4

_____ 5

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SECTION 11: FOR HEADMASTERS IN THE PROGRAM (FEEDING) SCHOOL SAMPLE

23. When did the feeding program start at your school? Month [] [] Year [] []

DERIVE LATER: Number of years of program operation: [] []

24. Were you working in this school at the time the feeding program began? Yes..... 1 No..... 2

A. What effect, if any, do you think the feeding program has on the size of enrollments? (Do not read responses--probe for effects)

- Increased enrollments..... 1
Had no effect on enrollments..... 2
Don't know..... 3
Other (specify) _____ 4

IF ANY RESPONSE EXCEPT "DON'T KNOW:"

Why? _____

B. What effect, if any, do you think the feeding program has on daily attendance? (Do not read responses--probe for effects)

- Increased daily attendance..... 1
Had no effect on daily attendance..... 2
Don't know..... 3
Other (specify) _____ 4

IF ANY RESPONSE EXCEPT "DON'T KNOW:"

Why? _____

C. How would you say the feeding program affects the number of children quitting school? (Do not read responses--Probe for effects)

- Decreased dropouts..... 1
Had no effect on dropouts..... 2
Don't know..... 3
Other (specify) _____ 4

IF ANY RESPONSE EXCEPT "DON'T KNOW:"

Why? _____

25. What is the total number of students receiving food in your school?

Four empty boxes for digit entry.

26. Which grades are receiving food? (circle as many as apply)

- Grade 1..... 1
- Grade 2..... 2
- Grade 3..... 3
- Grade 4..... 4
- Grade 5..... 5
- Grade 6..... 6
- Grade 7..... 7
- Grade 8..... 8
- Grade 9..... 9
- Grades 10-12 0

27. Do all the children in these grades participate in the feeding program?

- Yes..... 1
- No..... 2

IF NO:

A. How are the children who do participate chosen? _____

B. Would you say that the children who eat the school food attend school more, less, or about the same as those who do not eat the school food?

- Fed children attend more..... 1
- Fed children attend less..... 2
- Fed children attend about the same.... 3
- Don't know..... 4

FOR ANY RESPONSE EXCEPT "DON'T KNOW:"

Why? _____

28. How many days per week is the food served?

One empty box for digit entry.

29. How many weeks per year is the food served?

Two empty boxes for digit entry.

DERIVE LATER: Total number of Feeding Days per Year:

Three empty boxes for digit entry.

30. At what time of the day is the food usually served?

- Mid-morning only..... 1
- Noon only..... 2
- Mid-afternoon only..... 3
- Some combination of above 4
(specify):

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31. What food commodities are being used and what is the daily ration per child?

<u>Food Commodity (indicate if prepared or pre-packaged)</u>	<u>Daily Ration per Child (grams)</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

32. What kinds of facilities do you have for preparing and serving the food? Do you have...
(circle as many as apply)

- ...Cooking and serving utensils?..... 1
- ...Food storage areas?..... 2
- ...Heating facilities?..... 3
- ...Tables and benches or chairs?..... 4
- ...Central cooking and eating facility shared with another school?..... 5
- ...Any other facilities? (specify) _____ 6

33. How often, if ever, are you unable to provide food for the children?

- Has never happened..... 1
- Seldom happens..... 2
- Happens frequently..... 3
- Other (specify) _____ 4

34. Would you say the food..

- ...Almost always arrives on time, or.. 1
- ...There are frequent delays..... 2

35. Do you have any problems preparing and serving the food? (Do not read responses--probe for problems)

- No problems..... 1
- Cook services..... 2
- Inadequate storage facilities..... 3
- Inadequate cooking & serving utensils. 4
- Fuel shortage..... 5
- Water shortage..... 6
- Food infestation..... 7
- Takes too much time..... 8
- Other (specify) _____ 9

36. Do the children usually eat all that is served? Yes..... 1
 No..... 2

37. Do you think the food is enough for the children? Yes..... 1
 No..... 2

38. How much of the food that is eaten in school comes from...

(Fill in approximate percentages for each category; if 100%, write in "99")

...Donated food (such as U.S. aid)
 ...School garden (if applicable)..
 ...Parents.....
 ...Teachers.....
 ...Other sources (specify)

39. What does it cost each child to participate in the school feeding program for one month?

(Write in local currency and later convert to dollars and cents _____)

\$

Do the children contribute anything else for the food, such as...
(circle as many as apply)

...Fuel..... 1
 ...Other food..... 2
 ...Sugar or spices..... 3
 ...Other (specify) _____ 4
 _____ 5

40. Does the school pay for any part of the cost of the feeding program? Yes..... 1
 No..... 2

IF YES:

How much per month is spent on the feeding program and for what?
(Write in local currency and later convert to dollars _____)

\$

Transportation..... 1
 Fuel..... 2
 Food..... 3
 Sugar or spices..... 4
 Cooking and serving help. 5
 Warehousing or storage... 6
 Other (specify) _____ 7

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41. Aside from the feeding program dishes, can children purchase food at or nearby the school?

Yes..... 1

No..... 2

IF YES:

What kind of food can they purchase? Can they buy...

...Hot lunches..... 1

...Cold lunches..... 2

...Snacks..... 3

...Other (specify)

_____ 4

42. Can people in this area receive donated food supplements from any other source, such as self-help Food for Work, emergency food assistance, and so forth?

Yes..... 1

No..... 2

IF YES:

What other sources are there? _____

43. Is there anything else about your feeding program which ought to be noted, so that it can be better understood?

GO ON TO THE NEXT SECTION

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SECTION 111: DATA FORM FOR SCHOOL ATTENDANCE AND ENROLLMENT (FOR ALL HEADMASTERS)

COMPLETE THIS SECTION WITH THE ASSISTANCE OF THE HEADMASTER AND TEACHERS, USING SCHOOL RECORDS, NOTES, MEMORY, OR ANY OTHER SOURCES OF INFORMATION AVAILABLE.

It is essential that data entered in this section reflect comparable enrollment and attendance information over time. Please complete the following as a checklist:

What situation does the field team face here?

School plant serves one shift of students only..... 1

School plant serves more than one shift, but the age groups served, the neighborhoods served, and administration are the same for the plant as a whole, regardless of shift. IN THIS CASE, ENTER ENROLLMENT STATISTICS FOR ALL SHIFTS COMBINED..... 2

School plant effectively serves two or more schools: one shift has different grades in it than another, or serves a different neighborhood than another, or has a separate set of administrative records, or one shift is fed while another is not (in a program school). IN THIS CASE, ENTER ENROLLMENT STATISTICS FOR ONLY THE SHIFT COVERED BY THE FIELD TEAM'S SAMPLE

THIS SHIFT IS.....the morning shift..... 3

the afternoon shift.... 4

Has this situation been constant for the past six years--that is, can you enter comparable data for previous years? If not, what has changed?

Situation is stable..... 1

School district has expanded..... 2

School plant has expanded..... 3

Shifts were instituted or phased out.. 4

Any other change..... 5

IF SHIFT STRUCTURE CHANGES OR ANY OTHER CHANGES, PLEASE EXPLAIN IN DETAIL, ESTIMATING NUMBER OF PUPIL SEATS AFFECTED AND GIVING DATE OF CHANGE:

IF SCHOOL PLANT WAS EXPANDED, GIVE DATE AND ESTIMATED NUMBER OF SEATS ADDED:

IF SCHOOL DISTRICT WAS EXPANDED, GIVE DATE AND ESTIMATED NUMBER OF STUDENTS ADDED:

GO ON TO THE NEXT PAGE

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In the space provided below, please enter the following information for each of the past six years.

- A. The number of possible new first-year students--those living in the area served by the school, and able to pay any charges involved (may exceed school's capacity).
- B. The number of these potential first-year students who actually enrolled in the first grade.
- C. The annual average daily attendance for all first grade students in that year.

FIRST GRADE CHILDREN ENTERING SCHOOL IN:	Number of Possible Students--Those Who Could Have Enrolled	Number of Students Who Actually Enrolled	Average Annual Daily First Grade Attendance
1967-68	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
1968-69	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
1969-70	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
1970-71	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
1971-72	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
1972-73	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>

GO ON TO THE NEXT PAGE

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For each of the entering cohorts of students listed on the previous page, how has enrollment gone as it moved up into higher grades in the succeeding years? Enter actual enrollment as of the start of the school year for the years and grades indicated. Where no boxes are provided, you need not enter any data. Your entries for the first grades should match the numbers in the middle column of the previous page.

YEAR THIS COHORT ENTERED ORIGINALLY	ACTUAL INITIAL ENROLLMENT, BY GRADE LEVEL, IN...					
	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
1967-68	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>	5th <input type="text"/>	6th <input type="text"/>
1968-69	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>	5th <input type="text"/>
1969-70	X	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>
1970-71	X	X	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>
1971-72	X	X	X	X	1st <input type="text"/>	2nd <input type="text"/>
1972-73	X	X	X	X	X	1st <input type="text"/>

For each of the entering cohorts of students listed on the previous page, how has average daily attendance gone as the cohort moved on into succeeding grades? Fill in the data below, as you did above. Use annual averages; for the current (1972-73) year, use averages to date.

YEAR THIS COHORT ENTERED ORIGINALLY	AVERAGE DAILY ATTENDANCE, BY GRADE LEVEL, IN...					
	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
1967-68	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>	5th <input type="text"/>	6th <input type="text"/>
1968-69	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>	5th <input type="text"/>
1969-70	X	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>
1970-71	X	X	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>
1971-72	X	X	X	X	1st <input type="text"/>	2nd <input type="text"/>
1972-73	X	X	X	X	X	1st <input type="text"/>

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How was the above data on enrollment obtained? (circle as many as apply)

- School's official enrollment records.. 1
- Headmaster's notes..... 2
- Headmaster's memory..... 3
- Other (specify)_____ 4

How was the above data on average daily attendance obtained? (circle as many as apply)

- Teacher's/Headmaster's daily class attendance records..... 1
- Teacher's/Headmaster's yearly summary records..... 2
- Teacher's/Headmaster's notes..... 3
- Teacher's/Headmaster's memory..... 4
- Other (specify)_____ 5

DERIVE LATER: Propensity to Attend for all six grades

Using the data on the previous page, and matching attendance cells (bottom) with enrollment cells (top), divide each attendance cell by its corresponding enrollment cell and enter the resulting percentages on this page, below.

YEAR THIS COHORT ENTERED ORIGINALLY	PROPENSITY TO ATTEND, BY GRADE LEVEL, IN...					
	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
1967-68	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>	5th <input type="text"/>	6th <input type="text"/>
1968-69	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>	5th <input type="text"/>
1969-70	X	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>	4th <input type="text"/>
1970-71	X	X	X	1st <input type="text"/>	2nd <input type="text"/>	3rd <input type="text"/>
1971-72	X	X	X	X	1st <input type="text"/>	2nd <input type="text"/>
1972-73	X	X	X	X	X	1st <input type="text"/>

GO ON TO THE NEXT SECTION AFTER THE ENROLLMENT AND ATTENDANCE DATA HAS BEEN COLLECTED AND ANALYZED

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SECTION IV: FOLLOW-UP INTERVIEW FOR ALL HEADMASTERS

IF THERE IS AN INCREASE IN ENROLLMENT:

The enrollment data shows an increase over the past six years. What do you think accounts for this increase? *(Do not read responses--probe and circle as many responses as apply)*

- The size of the school district has increased..... 1
- The school facilities have expanded..... 2
- The size of the staff has increased..... 3
- There has been a change in the population base..... 4
- Shift setups have changed..... 5
- There has been an increased stress on school enrollment by the government..... 6
- The feeding program draws more students..... 7
- Other *(specify)* _____ 8

Even though the data shows an increase in enrollments, has anything happened that might have decreased enrollments? *(Do not read responses--probe and circle as many responses as apply)*

- The size of the school district has decreased..... 1
- The size of the staff has decreased..... 2
- Shift setups have changed..... 3
- A new school has been added to the district..... 4
- Other *(specify)* _____ 5

GO ON TO THE NEXT PAGE

123

IF THERE IS A INCREASE IN ENROLLMENT:

The enrollment data shows a decrease over the past six years. What do you think accounts for this decrease? *(Do not read responses--probe and circle as many responses as apply)*

- The size of the school district has decreased..... 1
- The size of the staff has decreased..... 2
- Shift setups have changed..... 3
- A new school has been added to the district..... 4
- Other *(specify)* _____ 5
- _____ 5

Even though the data shows a decrease in enrollments, has anything happened that might have increased enrollments at the same time? *(Do not read responses--probe and circle as many responses as apply)*

- The size of the school district has increased..... 1
- The school facilities have expanded..... 2
- The size of the staff has increased..... 3
- There has been a change in the population base..... 4
- Shift setups have changed..... 5
- There has been an increased stress on enrollments by the government..... 6
- The feeding program draws more students..... 7
- Other *(specify)* _____ 8
- _____ 8

THIS IS THE END OF THE DATA SCHEDULE FOR HEADMASTERS

124

DATA SCHEDULE FOR TEACHERS

COMMUNITY _____

SCHOOL NAME _____

TEACHER'S NAME _____ GRADE TAUGHT _____

INTERVIEWER _____

I.D. Codes

Country Code.....

Community Code.....

Institution Code...

Respondent Code.....

Date of Interview

Day Month

COMPLETE THIS FORM IN ENGLISH OR PROVIDE
TRANSLATIONS OF RESPONSES

SECTION I: FOR ALL TEACHERS

1. How many students are enrolled in your class?

2. How many students usually come to class on an average day?

DERIVE LATER: Propensity to Attend on a Class Level:

3. What teaching training do you have for this job? (*circle as many as apply*)
- High School..... 1
 - Four-year College..... 2
 - Graduate School..... 3
 - In-service Training..... 4
 - Foreign Study..... 5
 - Other (*specify*) _____ 6

4. How often are your students taught about nutrition and health? Are they taught...
- ...Every day..... 1
 - ...On occasion..... 2
 - ...Never..... 3

IF "EVERY DAY" OR "ON OCCASION":

In what ways are they taught about nutrition and health?

5. Do you record daily attendance or absences for each student? Yes..... 1
 No..... 2

IF YES: TELL THE TEACHER THAT YOU MAY NEED TO SEE THESE RECORDS LATER ON.

SECTION II: FOR TEACHERS IN THE PROGRAM (FEEDING) SCHOOL SAMPLE

6. What is the total number of children receiving food in your class?

7. Do you think the feeding program has helped to increase daily attendance? Yes..... 1
 No..... 2
 Don't know.. 3

IF EITHER "YES" OR "NO":

Why? _____

8. Do you think the feeding program has helped to increase yearly enrollments? Yes..... 1
 No..... 2
 Don't know.. 3

IF EITHER "YES" OR "NO":

Why? _____

9. Do the children usually eat all the food that is given to them? Yes..... 1
 No..... 2
 Don't know.. 3

10. Do you ever encourage the children to eat the food or tell them why it is good for them? Yes..... 1
 No..... 2

11. Do you think that the children perform better after they eat? Yes..... 1
 No..... 2
 Don't know.. 3

FOLLOWING SELECTION OF THE STUDENT SAMPLE, ASK TEACHERS IN BOTH PROGRAM AND CONTROL SCHOOLS THE FOLLOWING QUESTION:

For each of the children in our sample, could you tell me if you think they are very healthy, mildly healthy, or are they tired and sick most of the time?

Have the students in the sample and record teachers' answers on page 2 of each child's data schedule.

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DATA SCHEDULE FOR SCHOOL CHILDREN

COMMUNITY _____
 SCHOOL NAME _____
 CHILD'S NAME _____
 PARENT/GUARDIAN'S NAME _____
 PARENT/GUARDIAN'S ADDRESS _____
 INTERVIEWER _____

I.D. Codes		DK 01
Country Code.....	<input type="checkbox"/>	3/R
Community Code.....	<input type="checkbox"/>	4/R
Institution Code...	<input type="checkbox"/>	5/R
Respondent Code....	<input type="checkbox"/>	6/R
Family Code... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		7-9/R
Sibling Code.....	<input type="checkbox"/>	10/R
Date of Interview:		
Day <input type="checkbox"/> <input type="checkbox"/>	Month <input type="checkbox"/> <input type="checkbox"/>	11-14/R

SECTION 1: DATA FROM TEACHER, HEADMASTER, INTERVIEWER OBSERVATION, SCHOOL RECORDS, OR MEASUREMENTS

Sex: Male..... 1 15/R
 Female..... 2

Age--Date of Birth: Day Month Year 16-21/R

DERIVE LATER: Age in Months: 22-23/R

Tribal/Ethnicity: 24/R
 [CODED RESPONSES TO BE INSERTED DURING STAGING]

Attendance Record for Last Month: Number of days school was in session.... 25-26/R

Number of days child attended..... 27-28/R

DERIVE LATER: Number of Days Absent Last Month: (Record in Question 10 of this data schedule)

DERIVE LATER: Propensity to Attend School Last Month: 29-30/R

IQ Measure: 31-33/R

Teacher's Average Marks for This School Year:
 [CODED RESPONSES TO BE INSERTED DURING STAGING] 34/R

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Standard Scholastic Ability Test Score:

--	--	--

35-37/R

[TEST SOURCES AND SCORE TRANSFORMATION PROCEDURES
TO BE SETTLED DURING STAGING]

Height (to nearest 1/2 centimeter): Trial #1: _____

Enter best reading:

--	--	--	--	--	--	--	--

38-41/R

Trial #2: _____

If #1 and #2 do not agree: Trial #3: _____

Weight (to nearest tenth kilogram): Trial #1: _____

Enter best reading:

--	--	--	--

42-44/R

Trial #2: _____

If #1 and #2 do not agree: Trial #3: _____

DERIVE LATER: Height for Age:

--	--

45-46/R

Weight for Age:

--	--

47-48/R

Weight for Height:

--	--

49-50/R

Innoculations Received:

- Smallpox..... 1
- Tuberculosis..... 2
- Whooping Cough..... 3
- Tetanus..... 4
- Diphtheria..... 5
- Polio..... 6
- Measles..... 7
- Other (specify) _____
- _____ 8

51/R

Other Major Medical Problems Experienced by the Child Which May Have Affected His (Her) Health:
(Illnesses, Infections, Malnutrition, and so forth):

52/R

Subjective Assessment of the Healthiness of this Child: (circle one in each row for each respondent)

(FILL IN YOUR ASSESSMENT OF THE CHILD IMMEDIATELY FOLLOWING THE INTERVIEW WITH THE CHILD; FILL IN ANSWERS OF TEACHER, MOTHER, AND CHILD DURING THEIR INTERVIEWS)

Assessment of Child By:	Very Healthy	Mildly Healthy	Unhealthy
Interviewer:	1	2	3
Teacher:	1	2	3
Mother:	1	2	3
Child himself	1	2	3

53/R

54/R

55/R

56/R

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SECTION 11: FOR ALL STUDENTS IN THE SAMPLES

DK 02

COLS 3-14=I1

1. What is your full name? _____

2. What does your mother call you? _____

3. When were you born? _____ (RECORD IN SECTION I)

4. At what times of the day do you usually eat? (Code number of times)

15/R

5. I want you to try to remember all the food you ate or drank yesterday, including what you ate at school. Can you tell me everything you had from the time you got up yesterday morning until the time you went to sleep last night. (Probe to find out how much was eaten each time)

Type of Food: _____	Estimated Amount: _____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

16/R

6. Do you feel very well most of the time, just mildly well, or do you feel tired and sick most of the time?

_____ (RECORD LATER IN SECTION I)

7. If you could have any kind of meal you wanted, what would you eat, even if you don't have the food at home?

[CODED RESPONSES TO BE INSERTED DURING STAGING]

17/R

8. Do you like to drink milk?

Yes	1
No	2
Don't know..	3

18/R

9. Do you like to eat [VEGETABLE A]?

Yes	1
No	2
Don't know..	3

19/R

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10. I heard that you missed _____ days of school last month. Can you tell me why you missed those days?

(SEE SECTION I FOR NUMBER OF DAYS ABSENT)

- No days were missed..... 1 20/R
- Illness of self..... 2
- Illness in family..... 3
- Work in family..... 4
- Gone away from village..... 5
- Can't remember or Don't know..... 6
- Other (specify) _____ 7

11. Do you think eggs are good for you?

- Yes..... 1 21/R
- No..... 2
- Don't know.. 3

12. Do you think [SWEET] is good for you?

- Yes..... 1 22/R
- No..... 2
- Don't know.. 3

13. Do you think milk is good for you?

- Yes..... 1 23/R
- No..... 2
- Don't know.. 3

14. Do you walk to school?

- Yes..... 1 24/R
- No..... 2

15. How long does it take you to get to school from your home? (Minutes)

25-26/R

16. Do you like to eat [VEGETABLE B]?

- Yes..... 1 27/R
- No..... 2
- Don't know.. 3

17. Do you like to eat eggs?

- Yes..... 1 28/R
- No..... 2
- Don't know.. 3

18. Do you like to eat [SWEET]?

- Yes..... 1 29/R
- No..... 2
- Don't know.. 3

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19. Do you usually bring food to school from home? Yes..... 1 30/R
No..... 2
- IF YES: MAKE SURE THIS FOOD IS LISTED IN QUESTION #5 ABOVE*
20. Are you usually hungry when you get to school? Yes..... 1 31/R
No..... 2
21. Do you usually eat before you come to school? Yes..... 1 32/R
No..... 2
22. Do you think [VEGETABLE A] is good for you? Yes..... 1 33/R
No..... 2
Don't know.. 3
23. Do you think [MEAT] is good for you? Yes..... 1 34/R
No..... 2
Don't know.. 3
24. Do you think [VEGETABLE B] is good for you? Yes..... 1 35/R
No..... 2
Don't know.. 3
25. Do you like to eat [MEAT]? Yes..... 1 36/R
No..... 2
Don't know.. 3

SECTION III: FOR SAMPLED STUDENTS IN THE PROGRAM (FEEDING) SCHOOL.

26. Do you participate in the school's food program? Yes..... 1 37/R
No..... 2
- IF NO: THIS IS THE END OF THE INTERVIEW*
- IF YES: ASK THE REMAINING QUESTIONS*
27. How many days per week do you usually eat the school food? 38/R
28. Do you usually eat all the food that is given to you? Yes..... 1 39/R
No..... 2

29. If you eat at school, do you eat less food at home?	Yes.....	1	40/R
	No.....	2	
30. Does the school food taste all right?	Yes.....	1	41/R
	No.....	2	
	Some of it..	3	
31. Is enough food given to you to eat at school?	Yes.....	1	42/R
	No.....	2	
32. Do you come to school on days when food is <u>not</u> given out?	Yes.....	1	43/R
	No.....	2	
	Sometimes...	3	
33. Do you ever take the school food home with you?	Yes.....	1	44/R
	No.....	2	
34. Do you ever share the school food with anyone else?	Yes.....	1	45/R
	No.....	2	
35. Would you like to eat things like the school food at home?	Yes.....	1	46/R
	No.....	2	

FOR THIRD GRADE STUDENTS ONLY:

36. Did you eat the school food when you were in the first grade?	Yes.....	1	47/R
	No.....	2	
	Don't remember.....	3	
37. Did you eat the school food when you were in the second grade?	Yes.....	1	48/R
	No.....	2	
	Don't remember.....	3	

IMMEDIATELY FOLLOWING THE INTERVIEW, FILL IN YOUR ASSESSMENT OF THE CHILD'S HEALTH, AS HE OR SHE APPEARED DURING THE INTERVIEW, ON THE BOTTOM OF PAGE 2 OF THIS DATA SCHEDULE.

DERIVE LATER: Combined Food Habits Scale (questions 8,9,16,17,18,25)	Total points:	<input type="text"/>	<input type="text"/>	49-50/R
Combined Food Knowledge Scale (questions 11,12,13,22,23,24)	Total points:	<input type="text"/>	<input type="text"/>	51-52/R

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DATA SCHEDULE FOR MCH ADMINISTRATORS

COMMUNITY _____
 MCH PROGRAM NAME _____
 MCH ADMINISTRATOR'S NAME _____
 INTERVIEWER _____

I.D. Codes	
Country Code.....	<input type="checkbox"/>
Community Code.....	<input type="checkbox"/>
Institution Code...	<input type="checkbox"/>
Respondent Code....	<input type="checkbox"/>
Date of Interview:	
Day <input type="text"/> <input type="text"/>	Month <input type="text"/> <input type="text"/>

COMPLETE THIS FORM IN ENGLISH OR PROVIDE
 TRANSLATIONS OF RESPONSES

1. SHOW RESPONDENT THE MAP OF THE SITE AREA AND ASK FOR THE FOLLOWING INFORMATION.

- A. Indicate on this map the general areas you serve and the sites within this area which you do not serve.
- B. Indicate locations of other MCH centers in the area and the areas which they serve.
- C. Indicate what villages or neighborhoods on this map have never been exposed to MCH.

(When the above locations and boundaries are filled in, attach the map to this data schedule.)

2. Does this center operate other centers or sub-clinics at other locations?

Yes..... 1
 No..... 2

IF YES:

How are records kept, centrally or at each center?

Centrally..... 1
 At each center..... 2

(IF CENTRALLY: All mothers must be sampled)

3. How many of the following kinds of persons do you have on your staff? *(For part-time staff, count as fractions, such as 1/2 for someone working half-time.)*

	<u>Number</u>
Doctors	_____
Nutritionists	_____
Registered Nurses	_____
Other Para-professionals	_____
Others	_____

4. How many persons live in the service area for this clinic? _____

How many households are there in the service area for this clinic? _____

5. Are there any other sources of donated food supplements for people in the area served by this clinic, such as self-help Food for Work programs, emergency food assistance, and so forth?

Yes..... 1

IF YES:

No..... 2

What are the other sources? _____

6. In what year did this clinic begin operating at this location?
(If before 1900, write in "00")

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DERIVE LATER: Number of years of program operation:

7. Is this clinic set up temporarily or permanently?

Temporarily..... 1

Permanently..... 2

8. Is the clinic open all day and every day or only part of the time?

Open all day and every day..... 1

Open all day for _____ days of the week 2

Open _____ days of the week for _____ hours 3

Other (specify): _____

_____ 4

9. Is the clinic operated during the entire year or only at certain times of the year?

Entire year..... 1

Certain times (specify): _____

_____ 2

10. Other than the main MCH program for mothers and their children, is this center providing other services, such as other milk distribution, other hospital services, other family planning, or anything else?

Yes..... 1

No..... 2

IF YES:

What kinds of services?

Other milk distribution..... 1

Other hospital services..... 2

Other family planning..... 3

Other (specify) _____ 4

FOR THE REMAINING QUESTIONS, CONSIDER ONLY THE MAIN MCH PROGRAM AND ITS RECIPIENTS.

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11. Is the program free or do you require recipients to pay all or part of the cost?

- Free..... 1
- Recipients pay all..... 2
- Recipients pay part..... 3
- Other (specify) _____
- _____ 4

IF RECIPIENTS PAY ALL OR PART OF THE FEE:

A. What is the fee per child per month? \$
(Write in local currency and later convert to dollars and cents _____)

B. Is there a separate fee for mothers? Yes..... 1
No..... 2

IF YES:

How much? (Write in local currency and later convert to dollars and cents _____) \$

12. How much of the food needed by your center comes from ...Local products.....
(Fill in approximate percentages for each category. If 100%, write in "99".)
...Food aid.....
...Other sources (specify) _____

13. How are participants selected for the program--do you accept anyone or is it determined by age of the mother's children, nutritional need, poverty, or other criteria?
(Circle as many as apply)

- Anyone is accepted..... 1
- Age of mothers' children..... 2
- Nutritional need..... 3
- Low socioeconomic status..... 4
- Other (specify) _____
- _____ 5

14. What is the furthest and the average distance an MCH participant must travel to get to the clinic? (Kilometers)

- Furthest distance.....
- Average distance.....

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15. Is the program's food consumed here at the center, or do you distribute food to be prepared and eaten at home?
- Food consumed at the center only..... 1
 - Food distributed for home preparation and consumption only..... 2
 - Both..... 3

A. IF FOOD IS CONSUMED AT THE CENTER (OR BOTH):

Are these demonstration meals for mothers, or regular food service programs (such as milk distribution), or both?

- Demonstration meals..... 1
- Regular food service..... 2
- Both..... 3

What is served? Do you have complete meals, weaning foods, snacks, milk, or combinations of these?

- Complete meals..... 1
- Weaning foods..... 2
- Snacks..... 3
- Milk..... 4
- Other (specify) _____ 5

B. IF FOOD IS DISTRIBUTED FOR HOME USE:

(COMPLETE THE TABLE BELOW)

Composition of the Ration		Maximum Number of Times per Year This Ration is Distributed to Any <u>One</u> Recipient*	Number of Days of Supplemental Feeding which this Ration Distribution Usually Covers
Commodity	Amount (in grams)		
<u>Food Rations for Children:</u>			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
<u>Food rations for pregnant/lactating mothers:</u>			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

*Note: Some recipients (for example, pregnant/lactating mother) may not be eligible for assistance for a full twelve months; in such cases adjust period of time according to period of eligibility.

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16. What is the number of mothers and children participating in the program at this time, according to these categories of recipients...

...Pregnant/lactating mothers receiving food	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
...Mothers not receiving food but receiving other medical services.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
...Other mothers.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
...Nursing children not receiving food but receiving other medical services.....	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
...Children up to 36 months receiving food..	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
...Children over 36 months receiving food...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

17. What types of nutrition and health instruction do you give mothers in the program? (circle as many as apply) Do you provide

- ...General nutrition..... 1
- ...Food preparation (cooking demonstrations)..... 2
- ...Types of foods to feed children..... 3
- ...Budgeting and menu planning..... 4
- ...Cleanliness and sanitation..... 5
- ...Personal hygiene..... 6
- ...General child care..... 7
- ...Pre-natal care..... 8
- ...Post-natal/lactating mother care..... 9
- ...Family planning..... 0
- ...Other services (specify)_____

18. What types of medical services do you give program participants? (circle as many as apply) Do you provide...

- ...Vaccinations..... 1
- ...Examinations of children..... 2
- ...Examinations of mothers or expectant mothers..... 3
- ...Medication..... 4
- ...Other (specify)_____

19. Do you provide vitamin or mineral supplements?
- Yes--directly..... 1
 - Yes--through fortified foods..... 2
 - No..... 3

20. How many children of mothers in the program died during the past year? (Enter number) _____

What were the main causes of deaths? _____

21. Which of the following records do you keep on children? (circle as many as apply)
Do you have...

- ...Weight at birth..... 1
- ...Weight records by age..... 2
- ...Height records by age..... 3
- ...Illness records..... 4
- ...Other records (specify) _____

IF YES TO "WEIGHT AT BIRTH" RECORDS: ASK TO SEE RECORDS ON WEIGHT AT BIRTH FOR THE SAMPLED CHILDREN AND RECORD THIS INFORMATION ON MOTHERS' DATA SCHEDULES.

22. What does it cost your program each year for the following items? (Write in local currency and later convert to dollars)

- A. Staff salaries: _____ \$ _____
- B. Building rent and maintenance: _____ \$ _____
- C. Equipment allocation: _____ \$ _____
- D. Food storage and transportation: _____ \$ _____
- E. Medical supplies: _____ \$ _____
- F. Food other than donated food: _____ \$ _____
- G. Transportation for staff: _____ \$ _____
- H. Nutrition education materials (weight charts, posters, etc.) _____ \$ _____
- I. Food processing/preparation: _____ \$ _____
- J. Others: (Probe for such costs as "dashing" or "bake'eeesh" and specify)
_____ \$ _____
_____ \$ _____
_____ \$ _____

23. What income does your program have each year, from the following sources? (Write in local currency and later convert to dollars)

A. Fees from participants:	_____	\$ _____
B. Local contributions--estimate value of donations in kind for:		
Labor:	_____	\$ _____
Food:	_____	\$ _____
Buildings:	_____	\$ _____
Materials:	_____	\$ _____
Advisory services:	_____	\$ _____
Transportation/distribution of commodities and supplies:	_____	\$ _____
Transportation of staff:	_____	\$ _____
Fuel:	_____	\$ _____
Others (specify):		
_____	_____	\$ _____
_____	_____	\$ _____
C. Container sales:	_____	\$ _____
D. Others (specify):		
_____	_____	\$ _____
_____	_____	\$ _____

24. Is there anything else about your program which ought to be noted to more completely understand what your program does?

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DATA SCHEDULE FOR MOTHERS
 (OR GUARDIANS)

COMMUNITY _____

MOTHER'S NAME _____

- POINT OF CONTACT (*check one*)
- Program School
 - Control School
 - MCH Center--Current Enrollee
 - MCH Center--Former Enrollee
 - Non-MCH Area

NAME(S) OF CHILD(REN) SAMPLED: _____

INTERVIEWER: _____

I.D. Codes		DK 03
Country Code.....	<input type="checkbox"/>	3/R
Community Code.....	<input type="checkbox"/>	4/R
Institution Code...	<input type="checkbox"/>	5/R
Respondent Code....	<input type="checkbox"/>	6/R
Family Code...	<input type="checkbox"/>	7-9/R
Date of Interview:		
Day <input type="checkbox"/> <input type="checkbox"/>	Month <input type="checkbox"/> <input type="checkbox"/>	10-14/R

SECTION 1: FOR ALL MOTHERS

1. Respondent is:
- Child's biological mother..... 1 15/R
 - Child's guardian..... 2
 - Other (*specify*) _____ 3

IF RESPONDENT IS CHILD'S BIOLOGICAL MOTHER:

- A. How many children have you ever given birth to? 16-17/R
- B. How many times have you ever been pregnant? 18-19/R
- C. How many of your children are still living? 20-21/R

DERIVE LATER: Ratio of Births to Pregnancies: 22-23/R

Ratio of Live Children to Births: 24-25/R

- 2. How many people live in your house altogether? 26-27/R
- 3. How many children in this family are under 13 years of age? 28/R

4. For these children under 13 years of age, how old are they and which are boys and which are girls?

<i>Coding: Age: Code number of years; if less than one year, code 00.</i>	<u>Age</u>	<u>Sex</u>	<u>Sample Type</u>	
<i>Sex: Code 1 for boys and 2 for girls.</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29-32/R
<i>Sample Type (see children's names on first page)</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33-36/R
<i>Code 1 for program school student;</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	37-40/R
<i>Code 2 for control school student;</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	41-44/R
<i>Code 3 for other school student;</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	45-48/R
<i>Code 4 for sample MCH child;</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	49-52/R
<i>Code 5 for other MCH child;</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	53-56/R
<i>Code 6 for none of the above.</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	57-60/R

5. Can you read or write? Yes..... 1 61/R
No..... 2

6. How many years did you go to school? (Enter years of formal schooling; if none enter 00) 62-63/R

IF ANY FORMAL SCHOOLING:

A. Did you participate in a school feeding program when you were a child?

Yes..... 1 64/R
 No..... 2
 Don't remember..... 3

7. How much money is earned for the family every month? \$
 (Write in local currency and later convert to dollars _____) 65-67/R

8. Do you work anyplace which takes you away from the younger children--those who are not in school?

Yes..... 1 68/R
 No..... 2

IF YES:

Does anyone care for the children while you are working? Are they fed while you are working?

Yes, including giving them food..... 1 69/R
 Yes, but no food is given to them..... 2
 No..... 3

9. What is the main occupation in your family? 70/R
- | | | |
|--|---|---|
| | No particular skills..... | 1 |
| | Agriculture, livestock raising, or fishing..... | 2 |
| | Craftsman..... | 3 |
| | Tradesman or peddler..... | 4 |
| | Clerical or sales in an office or store..... | 5 |
| | Manager, Administrator, or Professional (Doctor, Teacher, etc.).. | 6 |
| | Other (<i>specify</i>) _____ | 7 |
-
10. Do your people... 71/R
(circle as many as apply)
- | | | |
|--|-----------------------------------|---|
| | ...Work for themselves..... | 1 |
| | ...Work for others..... | 2 |
| | ...Have others work for them..... | 3 |
-
11. Are any of these things available in your house? 72/R
(circle as many as apply)
- | | | |
|--|------------------------|---|
| | Bicycle..... | 1 |
| | Wrist watch..... | 2 |
| | Radio..... | 3 |
| | Chairs or beds..... | 4 |
| | None of the above..... | 5 |
-
12. How much land is owned by people in your family? 73/R
(Write in local units and later convert to acres _____)
- | | | |
|--|-------------------------|---|
| | None..... | 1 |
| | Less than 1 acre..... | 2 |
| | 1-5 acres..... | 3 |
| | 6-10 acres..... | 4 |
| | 10-50 acres..... | 5 |
| | More than 50 acres..... | 6 |
-
13. What foods were bought for the family from a market last week? DK 04
COLS 3-14=11
15/R
- [CODED RESPONSES TO BE INSERTED DURING STAGING]
-
14. What foods does the family eat that are grown here? 16/R
- [CODED RESPONSES TO BE INSERTED DURING STAGING]

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15. Do you get any meat, milk, or eggs from animals you have? No..... 1
- (circle as many as apply)* Yes, meat..... 2
- Yes, milk..... 3
- Yes, eggs..... 4
- Other (specify) _____ 5

17/R

16. I want you to try to remember all the foods to eat or drink which were prepared for the children in this family yesterday.

First of all, what was their main meal?

Type of food: _____ Estimated amount: _____

18/R

What was prepared for other meals?

Type of food: _____ Estimated amount: _____

What other foods were given to these children yesterday?

Type of food: _____ Estimated amount: _____

17. What kind of foods do you think the children should be fed that they are not getting now?

[CODED RESPONSES TO BE INSERTED DURING STAGING]

19/R

18. Do you ever tell the children why certain foods are good for them? Yes..... 1

No..... 2

20/R

19. Do you usually boil your water before you cook with it? Yes..... 1

No..... 2

21/R

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20. Do you usually wash the food before it is eaten by anyone? Yes..... 1 22/R
 No..... 2

DERIVE LATER: Sanitation Scale:

23/R

21. Have the children ever been vaccinated? Yes..... 1 24/R
 No..... 2
 Mixed..... 3

22. Are the children ever taken to a clinic, hospital, or doctor? Yes..... 1 25/R
 No..... 2

23. What kinds of sicknesses have your children had during the past year?
 [CODED RESPONSES TO BE INSERTED DURING STAGING] 26/R

24. DISPLAY WEICHT CHART...Do you know what this is? Yes..... 1 27/R
 No..... 2

IF YES:

What can this chart tell you? It shows how healthy a child is..... 1 28/R
 Other (specify) _____
 _____ 2

25. I'm going to name some foods and I want you to tell me if you think these foods would help children grow and stay healthy. First of all, do you think...
 (circle one response in each row)

	Yes	No	Don't Know
...[A GOOD UNPOPULAR FOOD] is good for children?	1	2	3
...[A BAD POPULAR FOOD] is good for children?	1	2	3
...[A GOOD AVAILABLE FOOD] is good for children?	1	2	3
...[A GOOD UNAVAILABLE FOOD] is good for children?	1	2	3
...[A BAD AVAILABLE FOOD] is good for children?	1	2	3

29/R

30/R

31/R

32/R

33/R

DERIVE LATER: Food Knowledge Scale:

Total Points:

34-35/R

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26. I'm going to name some foods and I want you to tell me if you have ever served them to the children.

A. Have you ever served eggs to the children? Yes..... 1 36/R
 No..... 2

IF NO:

Why not? Don't like them..... 1 37/R
 Can't get them..... 2
 Can't afford to buy them. 3
 Other..... 4

B. Have you ever served milk to the children? Yes..... 1 38/R
 No..... 2

IF NO:

Why not? Don't like it..... 1 39/R
 Can't get it..... 2
 Can't afford to buy it... 3
 Other..... 4

C. Have you ever served [VEGETABLE A] to the children? Yes..... 1 40/R
 No..... 2

IF NO:

Why not? Don't like it..... 1 41/R
 Can't get it..... 2
 Can't afford to buy it... 3
 Other..... 4

D. Have you ever served [VEGETABLE B] to the children? Yes..... 1 42/R
 No..... 2

IF NO:

Why not? Don't like it..... 1 43/R
 Can't get it..... 2
 Can't afford to buy it... 3
 Other..... 4

E. Have you ever served [MEAT] to the children? Yes..... 1 44/R
 No..... 2

IF NO:

Why not? Don't like it..... 1 45/R
 Can't get it..... 2
 Can't afford to buy it... 3
 Other..... 4

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DERIVE LATER: Food Habits Scale:

Total points:

46/R

IF THE RESPONDENT HAS A CHILD IN THE SCHOOL SAMPLES, GO ON TO THE NEXT SECTION; OTHERWISE GO ON TO SECTION IV.

SECTION II: FOR MOTHERS WHO HAVE CHILDREN IN EITHER OF THE SCHOOL SAMPLES

DK 05

NOTE: In this section, you will need to refer to the name of the child selected in the school samples.

COLS 3-14=

27. When (child's name) misses school what is usually the reason? (Do not read responses--probe for reasons and circle as many as apply)

- Never misses school..... 1
- Illness of child..... 2
- Illness of someone else in family..... 3
- Work in family..... 4
- Goes away from village..... 5
- Don't know..... 6
- Other (specify) _____ 7

15/R

28. Did your children eat before they went to school this morning?

- Yes..... 1
- No..... 2

16/R

29. How many years of schooling do you think is necessary for (child's name) to have?

- None..... 1
- 1-2 years..... 2
- 3-6 years..... 3
- 7-12 years..... 4
- College..... 5
- As much as he wants..... 6
- Don't know..... 7
- Other (specify) _____ 8

17/R

30. Would you say (child's name) feels very well, mildly well, or is tired and sick most of the time?

(RECORD IN SECTION I OF CHILD'S DATA SCHEDULE)

IF RESPONDENT HAS A CHILD IN THE PROGRAM (FEEDING) SCHOOL SAMPLE, GO ON TO THE NEXT SECTION; OTHERWISE GO ON TO SECTION IV.

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SECTION III: FOR MOTHERS OF CHILDREN IN THE PROGRAM (FOLLOWING) SCHOOL SAMPLE ONLY

31. Does (*child's name*) eat less at home when he (she) has school food? Yes..... 1 18/R
 No..... 2
 Not sure.... 3

32. Does (*child's name*) ever bring any of the school food home? If so, how often? No..... 1 19/R
 Yes, every day..... 2
 Yes, several times a week... 3
 Yes, once a week..... 4
 Yes, less than once a week.. 5
 Yes, less than once a month. 6

IF YES:

Who eats the food that (*child's name*) brings home? (Do not read responses--probe for age of person who eats food and circle as many as apply)

Child himself eats it..... 1 20/R
 Other children: 0-5 years old..... 2
 6-12 years old..... 3
 Adult (anyone over 12 years old)..... 4

33. Have you ever tried to buy the food (*child's name*) gets in school? Yes..... 1 21/R
 No..... 2

IF YES:

What foods? _____ 22/R

Are you still buying it? Yes..... 1 23/R
 No..... 2

IF RESPONDENT IS CURRENTLY OR PREVIOUSLY ENROLLED IN THE SAMPLE MCH PROGRAM, GO ON TO THE NEXT SECTION; OTHERWISE GO ON TO SECTION V.

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SECTION IV: FOR MOTHERS CURRENTLY OR PREVIOUSLY ENROLLED IN THE MCH PROGRAM

DK 06
COLS 3-14-11

34. When did you first start coming to the MCH center? Month Year

15-18/R

35. PREVIOUSLY ENROLLED MOTHERS ONLY: When was the last time you visited the center? Month Year

19-22/R

DERIVE LATER: Months of Participation for Currently and Formerly Enrolled:

23-24/R

(For Current Enrollees, use current date as stopping point;
For Former Enrollees, use date of last visit as stopping point.)

36. CURRENTLY ENROLLED MOTHERS ONLY:
A. Have you visited the center at least once a month since then? Yes..... 1
No..... 2

25/R

B. How many times per month do you usually visit the center?

26-27/R

BOTH CURRENTLY AND PREVIOUSLY ENROLLED MOTHERS:

37. Aside from giving out food, what does (did) the MCH center do for you? (Do not read responses; circle as many as apply)

- Tells me what kinds of foods I should feed my children..... 1
- Tells me how to prepare foods so that they are better..... 2
- Tells me how to care for my children when they are sick..... 3
- Gives me medicine or pills for myself and my children..... 4
- Examines me or my children when we are sick..... 5
- Tells me about family planning and birth control..... 6
- None of the above..... 7
- Other (specify) _____ 8

28/R

38. Do (did) you have any problems traveling to the MCH center? Yes..... 1
No..... 2

29/R

39. Has anyone from the MCH center ever visited you at home? If so, how often?
Yes, once..... 1
Yes, twice..... 2
Yes, three or more times. 3
No..... 4

30/R

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40. Are you receiving donated food from any place other than the MCH center now? Yes.....1
 No..... 2

31/R

IF YES: [POTENTIAL PRECODED RESPONSES TO BE REVIEWED IN STAGING]

A. Where are you receiving it from? _____

32/R

B. What are you receiving and how much do you receive per month?

Type of food: _____

33/R

Amount of food received per month: _____

41. Do you ever find out about healthy foods from radio, friends, or written messages like posters?

Yes, radio..... 1

34/R

Yes, friends..... 2

Yes, posters..... 3

Yes, other (specify) _____

4

42. Have you ever attended another program where you learned about good foods and how to be healthy?

Yes..... 1

35/R

No..... 2

IF YES: [POTENTIAL PRECODED RESPONSES TO BE REVIEWED IN STAGING]

A. What was the name of the program? _____

36/R

B. Where was it located? _____

C. How many times did you visit the program? Number of visits...

37-38/R

D. When was the last time you visited that program? Month Year

39-42/R

E. What did that program do for you--did it...

Give you food?..... 1

43/R

Teach you what kinds of foods are good for your children?..... 2

Teach you how to prepare foods so that they are better?..... 3

Give you medicine or pills for yourself or your children?..... 4

Examine you or your children?..... 5

Do anything else for you? (specify) _____

6

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43. Do you have any problems getting the foods you are told to feed your children? Yes..... 1 44/R
 No..... 2

IF YES:

A. What problems do you have? Can't afford to buy them..... 1 45/R
 Are not sold in the market..... 2
 Don't grow or raise them..... 3
 Other (specify) _____ 4

CURRENT ATTENDEES ONLY:

44. Do you receive food at the MCH center to take home? Yes..... 1 46/R
 No..... 2

IF YES:

A. How many people eat the food that is brought home? 47-48/R

B. Who eats the food? (Do not read responses; probe for ages and circle as many as apply) 49/R
 Child(ren) registered in MCH center... 1
 Other children: 0-5 years old..... 2
 6-12 years old..... 3
 Adults (anyone over 12 years old)..... 4

C. Which person eats most of the food which is brought home? (circle only one) 50/R
 Child registered in MCH center..... 1
 Other child: 0-5 years old..... 2
 6-12 years old..... 3
 Adult (anyone over 12 years old)..... 4

D. How many days does the food last at home? 51-52/R

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SECTION V: FOR ALL MOTHERS EXCEPT THOSE CURRENTLY OR PREVIOUSLY ENROLLED IN THE MCH PROGRAM

DK 07

45. Are you receiving donated food from any place right now?

COLS 3-14

Yes..... 1

15/R

No..... 2

IF YES: [POTENTIAL PRECODED RESPONSES TO BE REVIEWED IN STAGING]

A. Where are you receiving it from? _____

16/R

B. What are you receiving and how much do you receive per month?

Type of food... _____

17/R

Amount of food received per month... _____

46. Have you ever attended or are you now attending a program where you learned about good food and how to make your children healthier?

Yes, attend now..... 1

18/R

Yes, attended in the past..... 2

No..... 3

IF YES: [POTENTIAL PRECODED RESPONSES TO BE REVIEWED IN STAGING]

A. What was the name of the program? _____

19/R

B. Where was it located? _____

C. How many times did you visit the program?

20-21/R

D. When was the last time you visited the program? Month Year

22-25/R

E. What did that program do for you--did it...

Give you food?..... 1

26/R

Teach you what kinds of foods are good for your children?..... 2

Teach you how to prepare foods so that they are better?..... 3

Give you medicine or pills for yourself or your children?..... 4

Examine you or your children?..... 5

Do anything else for you? (specify) _____

_____ 6

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SECTION VI: FOR ALL MOTHERS EXCEPT MOTHERS OF CHILDREN IN THE SCHOOL SAMPLES

ASK TO SEE THE TWO YOUNGEST CHILDREN IN THE FAMILY (excluding infants six months old or less and children 13 years of age or older) SO THAT MEASUREMENTS CAN BE TAKEN OF THEIR HEIGHT AND WEIGHT.

DK 08

COLS 3-14=I

Name of Youngest Child: _____

Age--Date of Birth: Day Month Year

15-20/R

DERIVE LATER: Age in Months:

21-22/R

Sex: Male..... 1
Female..... 2

23/R

Length/Height (to nearest 1/2 centimeter): Enter best reading: .

24-27/R

Trial #1: _____

Trial #2: _____

IF #1 AND #2 DISAGREE: Trial #3: _____

Weight (to nearest tenth kilogram): Enter best reading: .

28-30/R

Trial #1: _____

Trial #2: _____

IF #1 AND #2 DISAGREE: Trial #3: _____

DERIVE LATER: Length for Age:

31-32/R

Weight for Age:

33-34/R

Weight for Length:

35-36/R

Weight at Birth, if available from MCH Center (to nearest tenth kilogram) .

37-38/R

GO ON TO THE NEXT PAGE AND RECORD SAME INFORMATION FOR NEXT YOUNGEST CHILD.

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Name of Second Youngest Child: _____

Age--Date of Birth: Day Month Year

39-44/R

DERIVE LATER: Age in Months:

45-46/R

Sex: Male..... 1
Female..... 2

47/R

Length/Height (to nearest 1/2 centimeter): Enter best reading:

48-51/R

Trial #1: _____

Trial #2: _____

IF #1 AND #2 DISAGREE: Trial #3: _____

Weight (to nearest tenth kilogram): Enter best reading:

52-54/R

Trial #1: _____

Trial #2: _____

IF #1 AND #2 DISAGREE: Trial #3: _____

DERIVE LATER: Length for Age:

55-56/R

Weight for Age:

57-58/R

Weight for Length:

59-60/R

Weight at Birth, if available from MCH Center (to nearest tenth kilogram):

61-62/R

THIS IS THE END OF THE DATA SCHEDULE FOR MOTHERS

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APPENDIX B: SELECTED REFERENCES

1. Nutrition Studies and Related Program Evaluations

Abbott, Richard D., et. al., Food for Peace: An Evaluation of PL 480 Title II (Washington: Checchi and Company, 1972).

Bengoa, J. M., Supplementary Feeding Programmes for Mothers and Young Children (Geneva: World Health Organization Nutrition Unit, UNICEF, 1972). See especially the annex "Classification of Malnourished Children."

Berntson, Byron, and others, unpublished draft materials for studies of the impact of blended foods in the Philippines, India, and Brazil, available from the author at the Economic Research Service, U.S. Department of Agriculture, Washington, D.C. (1972)

Caldwell, John C., et. al., A Manual for Surveys of Fertility and Family Planning: Knowledge, Attitudes, and Practice (New York: The Population Council, 1970).

Caton, Jay, draft text for Proposed Methodology for the Evaluation of Supplementary Feeding Programs for School Aged and Pre-school Children (Denver, Colorado: American School Food Service Association, 1972).

Forman, Martin J., Guidelines for Evaluation of Supplementary Feeding Programs for Preschool Children (Washington: Office of Nutrition, AID, 1971).

Hindustan Thompson Associates Limited, The Report on Bal-Ahar Acceptability Test Among School Children in India (Calcutta: the authors, 1970).

Roy, Prodipto, and Radha Nath Rath, ed., The School Lunch Programme in Orissa (New Delhi: Council for Social Development, 1971).

Taylor, Carl E., ed., Malnutrition and Infection in Weaning-Age Punjabi Children (Narangwal Rural Health Research Center Progress Report for 1971), (Baltimore: Johns Hopkins University, 1972).

U.S. Public Health Service, Screening Children for Nutritional Status: Suggestions for Child Health Programs (Washington: U. S. Government Printing Office, 1971).

Wellman, John, The Gbaji Family Health Nurse Project, Lagos, Nigeria, 1967-1970: An Examination of its Family Planning Impact (Baltimore: Johns Hopkins University, 1971). See especially Appendix L (with Cecile DeSweemer), "The Use of Weight Curves as an Index of Health."

White House Conference on Food, Nutrition, and Health, Final Report, (Washington: U. S. Government Printing Office, 1969).

2. Materials on Evaluation Research

AID Office of Program Evaluation, Evaluation Handbook, 2nd ed. (Washington: U. S. Department of State, Agency for International Development, 1972).

Rivlin, Alice M., Systematic Thinking for Social Action (Washington: The Brookings Institution, 1971).

Rossi, Peter H., and Walter Williams, ed., Evaluating Social Programs: Theory, Practice, and Politics (New York: Seminar Press, Inc., 1972).

U.S. National Institute of Mental Health, Planning for Creative Change in Mental Health Services: Use of Program Evaluation (Washington: U.S. Government Printing Office, 1971). See especially appended abstracts of program evaluations.

Weiss, Carol H., Evaluation Research: Methods of Assessing Program Effectiveness (Englewood Cliffs, New Jersey: Prentice-Hall, 1972).

Weiss, Carol H., ed., Evaluating Action Programs: Readings in Social Action and Education (Boston: Allyn and Bacon, 1972).

Wholey, Joseph S., et al., Federal Evaluation Policy: Analyzing The Effects of Public Programs (Washington: The Urban Institute, 1970).

3. Materials on Research Methods

Anastasi, Anne, Psychological Testing (New York: Macmillan, 1961).

Back, Kurt W., and J. Mayone Stycos, The Survey Under Unusual Conditions (Ithaca, New York: The Society for Applied Anthropology, 1959).

Borgatta, Edgar F., ed., Sociological Methodology 1969 (San Francisco: Jossey-Bass, 1969).

Borgatta, Edgar F., and George W. Bohrnstedt, ed., Sociological Methodology 1970, (San Francisco: Jossey-Bass, 1970).

Buros, Oscar K., The Seventh Mental Measurements Yearbook (New York: Gryphon, 1972).

Coleman, James S., Introduction to Mathematical Sociology (New York: Macmillan, 1964).

Costner, Herbert L., ed., Sociological Methodology 1971 (San Francisco: Jossey-Bass, 1971).

Cronbach, Lee J., Essentials of Psychological Testing (New York: Harper and Row, 1960).

Davis, James A., and Ann M. Jacobs, Conventions and Strategies for the Presentation of Percentage Tables (Chicago: National Opinion Research Center, 1965).

Kish, Leslie, Survey Sampling (New York: John Wiley, 1967).

Moroney, M.J., Facts From Figures (Baltimore: Penguin Books, 1951).

The National Opinion Research Center, A Brush-up on Interviewing Technique (Chicago: the authors, 1965).

Numally, Jun C., Psychometric Theory (New York: McGraw-Hill, 1967).

Raven, J.C., Guide to Using the Coloured Progressive Matrices (London: H.K. Lewis and Co., Ltd., 1965).

APPENDIX C: PROVISIONAL TIMETABLE AND COST ESTIMATES

The materials in this appendix have been separated from the body of the design study because AID/W may wish to modify its plans, voiding the usefulness of these estimates, and because it might be useful to separate these materials from final design study copies issued to country contractors. A final study timetable can be inserted in the text later or left here as a one-page version of Appendix C.

Comments here are restricted to three topics: selecting country contractors; overall timing of the project; and overall costs.

1. Selecting Country Contractors

Repeatedly in the text, we have noted how demanding this design is for country contractors. This is not due to any special reservations we have about the quality and skill of potential contractor personnel--even though some U.S. researchers will express some reservations of this sort. Our own guess is that research personnel overseas are about the same as those in the U.S., that is, a few are really good, a few are really bad, and most are so-so. The main reason for the demanding nature of the study is simply that AID's timetable is very tight. When we add to this some additional considerations of research conditions in developing countries--the scarcity of good secretarial and other support services, the inordinate amounts of time that even simple tasks like reproduction of forms can consume, problems of travel and of locating people, and so on--then it is obvious that the country contractor must be extremely capable. Specifically, he must be well organized to a degree which is rare in

this nation as well as overseas, and he must be able to mount and supervise a team effort rather than proceed in more leisurely and academic fashion with a one or two-man strategy.

Many university research personnel would regard this design as an impossible one, because they are accustomed to the time scheduling of part-time research, in which workers are not committed completely to a study but rather sandwich in their activities along with teaching, work on other research interests, and consultation to government. In our judgment, the design is eminently practical as long as first-class personnel are committed to it on a full-time basis. It may be that contractors which can meet these kinds of criteria may not be available in the countries selected at the specific time required by this plan. At the same time, the design which we recommend strikes us as mandatory if we are to ensure that a study can be turned out within the given time constraints which will be worth the resources put into it. With this in mind, we recommend strongly that AID allow for contingencies in country selection, choosing at least one backup nation for each country initially included, so that there will be room to fall back if contractors cannot be obtained.

Further advice which we have received on possible contracting problems comes from Dr. William A. Glaser of Columbia University, the principal investigator of the international "brain drain" study financed in part by AID. Drawing on his experience in working with local research groups in some 20 different countries, Dr. Glaser has expressed some skepticism as to the ability of country contractors to cope with the design, at least under the time limits given. We would concur with his reservations, insofar as AID expects to use university personnel to do this evaluation. If private survey



organizations are available for the work, AID can reasonably demand full-time commitment, which will ease the pressure of time. Another route which we would judge to be promising would be to work with a consortium, drawing on university personnel for research expertise and overall direction, and on voluntary agency and health workers for field talent--in many countries these people now have field research experience gained in nutritional diet surveys. The advantage of the consortium is that it might be able to supply enough extra personnel to make up for the inability to tap university personnel on a full-time basis.

Finally, AID may wish to consider contractual safeguards, such as incentive provisions for adherence to the timetable or penalty provisions for delays.

2. Overall Timing

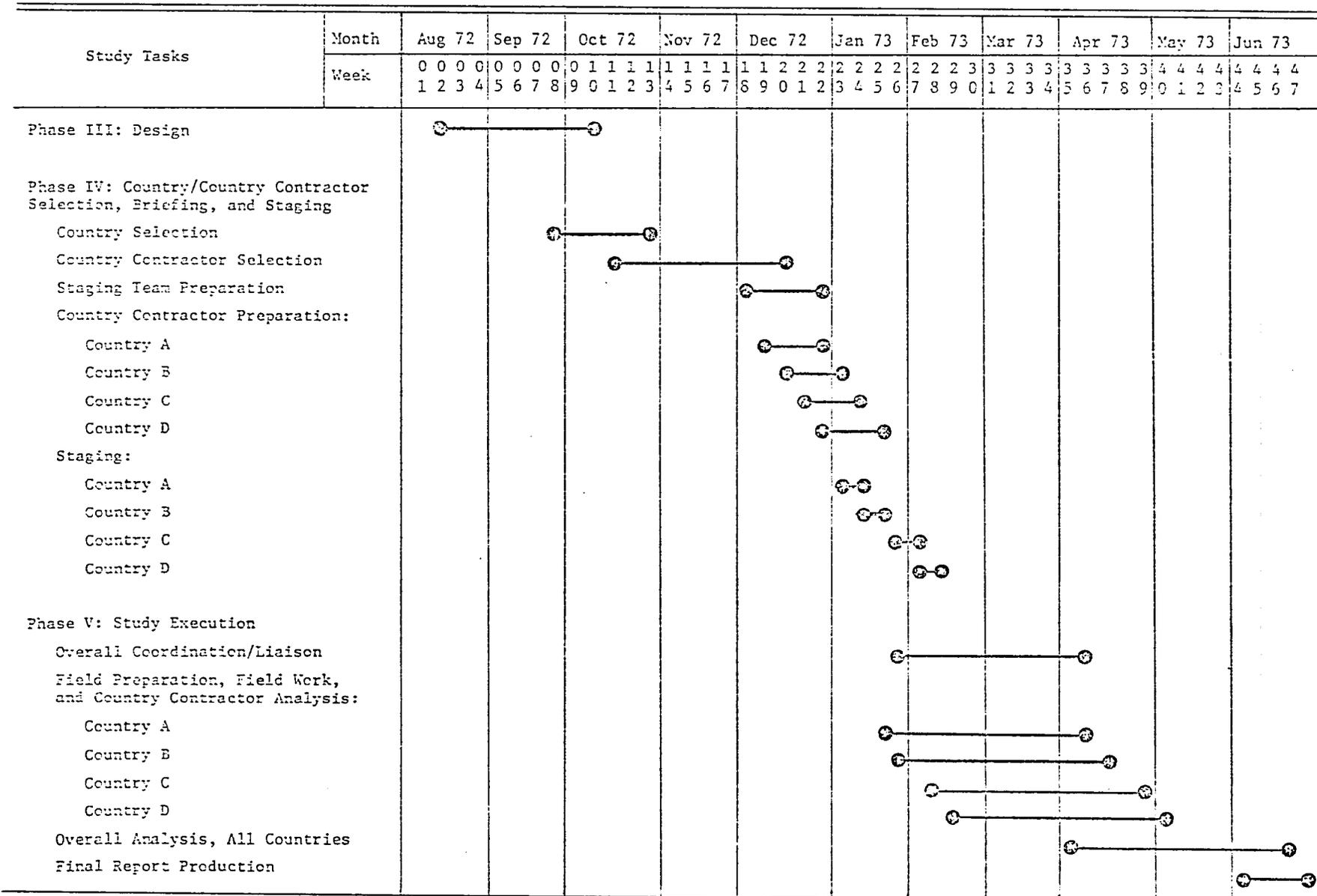
Exhibit C-1 shows the major study milestones. It includes allowance for travel and delays in transmitting materials around the world, generous time provisions for contractor selection, and sufficient time for final report production.

Given our remarks in the previous paragraphs about time constraints, we should report the results of a careful analysis which has been made of the scheduling options which AID might wish to consider. First, any early completion of country contractor selection will permit advancing the entire timetable--a most desirable result. Second, the elapsed time allowances for all U.S. contractor tasks can remain fixed. This includes the one-month lead time prior to staging, the duration of staging visits, and the analytic work production estimates. The pre-staging time is needed to assist in making final

EXHIBIT C-1

Study Work Flow and General Timetable

(Four countries. For a three-country study, unaltered except for no Country D)



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modifications of this design and to prepare the team. Staging visits have been designed to take up the absolute minimum of elapsed time, as noted in Section II of the text. And as long as country contractors can fulfill their end of the bargain, the U.S. contractor can complete the analysis described in Section V in 12 elapsed weeks, by 30 June, 1973--if he is prepared to commit full-time resources of several people to this task, and if he is allowed at least one month's lead time (not depicted in Exhibit C-1) to prepare data processing specifications and test these with dummy data.

The other possible option is the choice of three versus four countries. We have looked this over carefully and have concluded that the maximal advantage will be to add about a week of available time for each country contractor's field activities. We strongly recommend that all time savings achieved by any modifications of the schedule in Exhibit C-1 be placed at the disposal of the country contractors, adding to their capability to do a good job.

3. Study Costs

Exhibit C-2 provides separate cost estimates for a three and a four-country effort. Both estimates are rock-bottom, and AID will run a risk of corner-cutting by all of its contractors if it has to proceed with less in the way of financial resources. The U.S. contractor estimates are based on the cost and overhead structures of the present organizations involved with this study, with some allowance for salary increases.

The overseas contract estimates are based on data obtained from AID and USDA in securing similar kinds of services for surveys. These estimates have been inflated slightly to allow

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EXHIBIT C-2

Rough Estimates of Costs, Study Phases IV and V

Item	For a Three-Country Study	For a Four-Country Study
<u>1. Phase IV Staging</u>		
Staging Team Contract*	\$11,000	\$14,000
Travel	7,000	7,500
Overseas Per Diem	<u>1,700</u>	<u>2,300</u>
<u>Totals:</u>	\$19,700	\$23,800
<u>2. Phases IV and V Country Contracts, at \$15,000 each</u>		
	45,000	60,000
<u>3. Phase V Analysis and Report</u>		
Analytic Team Contract*	\$20,000	\$24,000
Data Processing	6,500	7,500
Report Production	<u>2,000</u>	<u>2,500</u>
<u>Totals:</u>	<u>28,500</u>	<u>34,000</u>
GRAND TOTAL:	\$93,200	\$117,800
<u>RECAPITULATION ACROSS PHASES:</u>		
U.S. Contractor Costs*	\$31,000	\$38,000
Overseas Contractor Costs	45,000	60,000
Major Out-of-Pocket Costs:		
Staging Team Overseas Travel	\$7,000	\$7,500
Staging Team Per Diem	1,700	2,300
Data Processing	6,500	7,500
Report Production	<u>2,000</u>	<u>2,500</u>
	<u>17,200</u>	<u>19,800</u>

* Includes direct salaries, fees, overheads, and minor out-of-pocket expenses for local travel, Xeroxing, visas, etc.

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for cost increases in the past two years. The resulting figures come reasonably close to those for the recent Brain Drain contracts. We allow for approximately two man-years of effort on the part of each country contractor, and for additional costs in local per diems, transportation, data processing, and so on.