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9. ABSTRACT

A report of CARE's involvement worldwide with pre-school nutrition programs. This report presents the results of the first phase of a three-phase study begun in June, 1975, and planned for completion in December, 1978. CARE is in a unique position to begin developing guidelines to help enhance pre-school nutrition programs. The present project was designed to evaluate pre-school nutrition programs and provide guidelines for future planning. A review of all CARE programs designed to improve the nutritional or health status of pre-schoolers was made from documents available in the New York headquarters. This included 31 programs in 18 countries. Reports consulted for each country included the Multi-Year Plan, Annual Program Plan, Annual Implementation Plan, Quarterly Program Implementation Evaluation Reports, and questionnaires sent to the countries involved. The total annual budgets of all programs add up to $66.7 million, including the cost of PL 480 food commodities. The average cost per child per year is $17, with a range from $1 to $109. Of the total 5.45 million pre-school beneficiaries enrolled worldwide, 4.14 million are in India; 0.29 million are in other Asian countries; 0.92 million are in Latin America; and 0.10 million are in Africa and the Middle East. Twenty-three of the thirty-one programs have Health Ministries as counterparts. The majority of children are reached through MCH, Day Care, Community, or Primary School centers. There are 47,670 such centers with a calculated average of 114 beneficiaries enrolled at each. Eighty percent of the worldwide programs are predominantly geared toward the rural areas.

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CARE PRESCHOOL NUTRITION PROJECT:
Phase I Report

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CARE PRESCHOOL NUTRITION PROJECT:
Phase I Report

Contents

Phase I Report

ENHANCING CARE'S INVOLVEMENT IN PRE-SCHOOL NUTRITION PROGRAMS:

Overview of On-Going Programs

I. INTRODUCTION

Due to increasing awareness of the complex causality of malnutrition and of the seriousness of its effect on human development, it has become imperative to find a means of delivering effective nutrition services through high coverage programs for the most nutritionally vulnerable pre-school child. The difficulty of accomplishing these objectives under practical program circumstances is now widely acknowledged. However, CARE, endowed with years of experience in the administration of programs of this nature, is in a unique position to begin developing guidelines to help enhance pre-school nutrition programs.

Supplementary feeding and health programs have always been a significant part of CARE's activities. From the early 1950's, CARE's Pre-school Nutrition Programs have grown steadily and now cover 5.5 million beneficiaries through 31 programs in 18 countries. In addition, several million more pre-school children are covered under School Lunch Programs, Food-for-Work Programs and MEDICO programs. Ranging from the large-scale distributions of food supplements, to highly selective rehabilitation programs for the severely malnourished, CARE programs employ a variety of interventions, using different types of infrastructure and varying levels of inputs (funds, technical staff, etc.). Clearly a wealth of useful planning information is to be found in the study of these programs. In the past, time and funds have not permitted detailed and comparable evaluation of each pre-school nutrition program. Therefore, information has not been available in a systematic form for any substantial cross-fertilization of ideas or mutual sharing of experiences in pre-school nutrition programming. The present project was designed to fill this need.

Within the project, a review of all CARE programs designed to improve the nutritional or health status of pre-schoolers has been made from documents and reports available in the New York headquarters (First Phase). Of all pre-school nutrition programs worldwide, some have been selected for in-depth field study (Second Phase). The lessons of experience thus obtained, relating to the design of successful pre-school programs will be considered hypotheses for testing through pilot programs (Third Phase). A set of program guidelines will then be developed from results of the three phases. The guidelines will be available as a tool for planning impactful programs for improving the nutritional status of pre-school children. Funded through an AID-DPG allocation, the project began with the First Phase in June, 1975,

and is expected to be completed in December, 1973.

This report gives the results of the Phase I worldwide survey of CARE's pre-school nutrition programs, as well as describes the countries selected for in-depth field study in Phase II and the methodology to be followed in these field studies.

II. RESULTS OF PHASE I WORLDWIDE SURVEY

A. METHODS

The purpose of Phase I of the project was to describe and classify CARE's current pre-school supplementary feeding programs worldwide. In order to accomplish this, the following methods were used:

1. Data Collection - A list was made of all countries having programs intended to improve the health/nutrition status of pre-school age children. There are in all, 18 countries with 31 programs (Table I).

TABLE I. NUMBER OF PRE-SCHOOL NUTRITION PROGRAMS BY REGION

Asia		Latin America, Caribbean		Africa, Middle East	
India	14	Chile	1	Jordan	1
Korea	1	Colombia	1	Liberia	1
Pakistan	1	Dominican Republic	1	Tunisia	1
Philippines	1	Costa Rica	1	Turkey	1
Sri Lanka	1	Ecuador	1		
		Guatemala	1		
		Haiti	1		
		Honduras	1		
		Nicaragua	1		
Totals	18		9		4

For each country, the following reports were consulted:

Multi-Year Plan (MYP), Annual Program Plan, Annual Implementation Plan (AIP), Quarterly Program Implementation Evaluation Reports (PIE). Since some additional data were required and it was necessary to ascertain the comparability of parts of the available information, a questionnaire was sent to the listed countries.

2. Standardizing data - Estimates of the number of target population (0-6 years age group) are based on total population figures from the 1972 UN Data Sheet estimates for mid '73; sixteen percent of the total population has been estimated to be in the 0-6 age group. The number of malnourished is calculated from percentage prevalence of I, II, III degrees PCM as reported

by country offices. Actual or effective coverage of program beneficiaries is calculated from "Utilization" columns of PIEs. An average of all quarters reported up to June 20, 1975 was used to calculate the percent average "utilization", taking the figures in the target column as a base. Infant mortality rates are from 1972 UN Data Sheets.

3. Data Gaps - Most frequently not available were data on pre-school mortality rates (number of mortalities in the one-to-six-years age group per year per 1000, one-to-six-year population); percent of national budget devoted to health and nutrition; Recommended Daily Allowances of Pre-schoolers and calculation of caloric and protein value of food rations as a percent of these; disaggretion of prevalence rates of PCM into I, II, and III degrees separately; division of beneficiaries into 0-3 and 3-6 years age groups. Few attempts have been made in any CARE nutrition program to evaluate impact and no data was available for any such evaluations done. The results of the few evaluations conducted are either inconclusive (since neither baseline data nor controls were used), or the data has been collected but not yet analyzed.

4. Analysis -

A. Present Status of Programs

Data from questionnaires returned by CARE Missions were listed in Tables II-VII. Calculations of percentage "at risk" or the malnourished group covered by programs in Table V are hypothetical figures based on the assumption that all programs are targetted, i.e., enroll only malnourished children. The figures, in fact, reflect the potential of programs if they were all to become selective. Calculations of"actually covered" versus targetted are based on averages of second or third quarter PIEs from Fiscal Year '75 for each country. Again, these figures should be used cautiously. Also, "total budget" calculations in Table VI vary from country to country; some have accounted for every possible input going into the program, while others have not been equally meticulous.

B. Findings on Present Status of Programs

Description of the characteristics of each of CARE's current pre-school nutrition programs can be obtained from Tables II-VII. When viewed as a whole, the following patterns emerge in CARE's pre-school programs worldwide:

1. The total annual budgets of all programs add up to $66.7 million, which includes the cost of PL 480 food commodities. The average cost per child per year is $17.00, with a range from $1 to $109. These costs

should merely be taken as rough estimates, since standardized cost calculation procedures for all countries were not employed for this survey. In 36% of the countries, there is some charge to the beneficiaries for participation.

2. Of the total 5.45 million pre-school beneficiaries enrolled worldwide, 4.14 million are in India; 0.29 million are in other Asian countries; 0.92 million are in Latin America; and 0.10 million are in Africa and the Middle East. Sixty-one thousand were to be phased-out this year from the Africa/Middle East regions.

3. Twenty-three out of the thirty-one programs have Health Ministries as counterparts. Twenty-one of the programs have multiple counterparts. The number of children reached through MCH, Health or Recuperation Centers is smaller than the number reached through Day Care and Community Centers and Primary Schools. The proportion of the total world programs carried out at various types of centers is as follows:

Type of Center	Percent of All CARE Pre-School Programs
MCH	39
Day Care	22
Community	19
Primary School	12
Rehabilitation	5
Fair Price Shop	1.5
Factory	1.5

4. There are a total of 47,670 centers with a calculated average of 114 beneficiaries enrolled at each. Actual center enrollment figures were not available.

5. Eighty percent of the worldwide programs are predominantly geared toward the rural areas. Actual percent of centers in rural areas for various regions is as follows - 81% in Asia; 67% in Africa/Middle East; and 58% in Latin America and the Caribbean.

6. In 32% of the worldwide programs, foods are given to mothers as a take-home ration and 68% of the programs feed pre-school children "on-site". However, the vast majority of "on-site" feeding takes place in India, where three million children are reached through a "cooked at center" system. When India is omitted from the analysis, one finds that 68% of CARE pre-school feeding programs in other countries fall into the "take-home" category.

7. Thirty-seven percent of the worldwide programs are "targetted", i.e., they claim to select beneficiaries for enrollment on the basis of poor nutritional status. The remaining 63% of programs are "non-targetted". The criteria used for determining whether programs are targetted or not were not standardized for this survey and there may well be some discrepancy in definition of terms in the various countries.

8. Nineteen programs (61%) have some local food input in the program, although the percentage contribution of indigenous foods to the total ration has not been specified. The most common pattern of PL 480 food distribution is a ration of three commodities. However, as few as one commodity or up to six commodities may be given, depending on the program. Soybean oil is the most frequently distributed commodity; followed closely by Wheat Soy Blend (WSB) and then by Corn Soy Blend (CSB). Other commodities distributed listed in order of frequency are: soy-fortified flour, bulgur, whey soy drink mix (WSDM), non-fat dry milk, oats, cornmeal, flour, instant CSB, soy-fortified bulgur, and soy-fortified sorghum.

9. The average ration is 123 grams daily and provides 420 calories and 20 grams protein, meeting 23% of the FAO caloric requirements for 4-6 year old children, and 100% of the protein requirements. Almost invariably, the rations amply cover protein requirements, but fall short on caloric requirements. The daily caloric contribution of rations ranges from 7-76%. Ration size varies from 40-400 grams daily.

10. CARE's programs are set in countries where 33-80% of all pre-schoolers suffer from some degree of malnutrition. However, average coverage of a country's total malnourished pre-school population is 7% with a range from 3-37%. Highest coverage of malnourished pre-schoolers is found in the Dominican Republic (37%) and lowest in India (3%).

11. The majority of pre-school nutrition programs are operated year-round. No programs run for less than nine months.

12. Half of the programs worldwide are integrated with some components of nutrition education, health services, family planning, and/or agriculture. As most of the India program is not integrated, we find that if India is omitted, then three-fourths of the remaining CARE programs worldwide show some degree of integration.

13. The average efficiency of CARE's delivery system for pre-school nutrition programs is high. On the average for the period surveyed, 72% of the commodities were delivered as scheduled to distribution points. However, the differences in efficiency between programs are wide, ranging from no commodities delivered in the Philippines and Uttar Pradesh, to 126% of the scheduled commodities delivered in Haiti.

14. Nine of the eighteen countries have at the national level, a nutrition planning body and/or a national plan for nutrition.

TABLE II. - IDENTIFICATION, SIZE AND DURATION OF CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	COUNTRY	COUNTERPART	TOTAL ANNUAL BUDGET '000 $	TOTAL No. BENS. '000	NUMBER OF STAFF		YEAR STARTED	PROJECTED PHASE-OUT
					NATIONAL	INTERNATIONAL		
	Africa/Middle East							
I	Jordan	Social Affairs	238.4	18.5	9	2	-	-
II	Liberia	Natl. Food Asst. Unit	102.9	17.5	0	2	1970	1975
III	Tunisia	Health, Natl. Com. Soc. Solidarity	47.8	25	2	1	1975	1977
IV	Turkey	Health, Red Crescent	71.4	43.5	6	2	1959	1975
	Latin America							
V	Chile	Education	2000.0	21	15	2	1960	-
VI	Colombia	Health, Soc. Wel.	14500.0	380.0	55	4	1950	1978
VII	Costa Rica	Health, IMAS.	3600.0	32.9	3	1	1957	1977
VIII	Dominican Republic	Health	327.8	230.0	31	2	1967	1979

TABLE II CONTINUED - IDENTIFICATION, SIZE AND DURATION OF CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	COUNTRY	COUNTERPART	TOTAL ANNUAL BUDGET '000 $	TOTAL No. BENS. '000	NUMBER OF STAFF NATIONAL	NUMBER OF STAFF INTERNATIONAL	YEAR STARTED	PROJECT PHASE-O
IX	Ecuador	Health, Labor & Soc. Wel., Agric.	2300.0	80	7	1	1963	1977
X	Guatemala	Health	1041.7	116	19	3	1963	-
XI	Haiti	Bureau of Nutrition	13.0	18.4	16	5	1957	-
XII	Honduras	Health, Education	832.0 (includes School, -"Other Child" programs)	40	15	2	1959	1986
XIII	Nicaragua	Health	106	4	0	4	1972	-
	Asia							
XIV	INDIA	Soc. Welfare	39,639.5	4141.9	308	13	1964	-
1.	Andhra Pradesh	Educ., Soc. Wel., Health	1872.9	243.8	23	1	1968	-
2.	Gujarat	Rural Dev., Health	3254.8	221.6	19	0	1970	-
3.	Haryana	Soc. Wel., Educ.	226.3	35.5	7	0	1968	-
4.	Karnataka	Educ., Soc. Wel., Health	2895.9	520.8	25	1	1964	-
5.	Kerala	Rural Devl.,Health, Soc. Welfare	3845.0	438.1	36	1	1964	-
6.	Madhya Pradesh	Tribal Wel., Health, Plng., Rural Dev.	6175.7	614.7	27	0	1971	-

TABLE II CONTINUED-IDENTIFICATION, SIZE AND DURATION OF CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	COUNTRY	COUNTERPART	TOTAL ANNUAL BUDGET '000 $	TOTAL No. BENS. '000	NUMBER OF STAFF NATIONAL	NUMBER OF STAFF INTERNATIONAL	YEAR STARTED	PROJECTED PHASE-OUT
7.	Maharashtra	Rural Dev.	2333.2	279.0	17	1	1971	-
8.	Orissa	Rural Dev., Comm. Dev., Soc. Wel.	3045	217.6	25	0	1968	-
9.	Punjab	Educ., Soc. Wel., Health	305.6	41.7	4	1	1968	-
10.	Rajasthan	Soc. Wel., Health	4689.1	417.8	14	1	1970	
11.	Tamil Nadu	Health, Rural Dev., Labor & Soc. Welfare	5613.6	481.7	39	1	1964	-
12.	Uttar Pradesh	Rural Dev., Soc. Wel., Health	3268	409.1	33	1	1968	
13.	West Bengal	Health; Soc. Wel.	2059.3	209.5	25	1	1968	-
14.	'Kasa' Project	Rural Dev., Health	55.1	11.0	4	1	1974	1977
XV	KOREA	Health, Soc. Aff.	1600	45	24	2	1972	1979
XVI	PAKISTAN	Health	129.9	40	21	2	1971	-
XVII	PHILIPPINES	Education	123	16	6	2	1971	-
XVIII	SRI LANKA	Health	2300	190	30	4	1956	-

TABLE III. - INFRASTRUCTURE AND FOOD DISTRIBUTION IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. NO.	No. CENTERS	TYPE OF CENTERS	% CENTERS RURAL	TYPE OF DISTRIBUTION	No. MONTHS PER YEAR	SCREENING OF BENS. Health or Nutritional Status	SCREENING OF BENS. Income Level	COMMODITIES DISTRIBUTED	ANY INDIGEN FOOD
Africa/Middle East									
I JORDAN	143	MCH, Nursery Schools	85	57% cooked	12-MCH 9-presch.	Some	No	SFF, oil, milk pd. bulgar, WSB, CSB	Yes
II LIBERIA	97	Health	90	Monthly take home	12	No	No	CSM, WSB, soy grits, oats, cornmeal, oil	No
III TUNISIA	60	MCH	25	Monthly take home. Some Rehab. Centers	12	Yes	No	WSB	Planned
IV TURKEY	264	MCH	59	90% take home	12	Yes	No	SFF, oil	Yes
Latin America									
V CHILE	198	Nursery Schools	1	Cooked	12	Yes	Yes	SFF, oats, oil, WSB, milk	Yes
VI COLUMBIA	1374	MCH, Recuperation, Com. Centers	70	Fortnightly Take home	12	Yes	No	Bulgar, ICSM, SFF, oil, cornmeal	Yes
VII COSTA RICA	292	Day Care	0	Fortnightly take home	12	Some	No	WSB, WSDM, SFF, oil	Yes
VIII DOMINICAN REPUBLIC	672	Health	87	Daily take home	12	Yes	No	Bulgar, CSM, WSB, oil	No

TABLE III CONTINUED- INFRASTRUCTURE AND FOOD DISTRIBUTION IN CARE

PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	No. CENTERS	TYPE OF CENTERS	% CENTERS RURAL	TYPE OF DISTRIBUTION	No. MONTHS PER YEAR	SCREENING OF BENS. Health or Nutritional Status	SCREENING OF BENS. Income Level	COMMODITIES DISTRIBUTED	ANY INDIG FOOD
IX ECUADOR	340	Com. Centers, Health	24	Fortnightly take home	12	Yes	No	ICSM, oil, oats, flour	Yes
X GUATEMALA	281	MCH	52	85% monthly take home	12	No	No	WSDM, SFB, SFS, oil, CSB	Yes
XI HAITI	88	Rehab., MCH, Nursery Schools	80	90% cooked	11-Rehab. 12-MCH 9 Presch.	Yes	No	Bulgar, CSB, WSB, oil, WSDM	Yes
XII HONDURAS	302	Health, Day Care	65	65% cooked	12	No	Yes	Milk, WSB, Bulgar, Wheat flour, oil	Yes
XIII NICARAGUA	10	Health	100	-	12	Yes	No	-	-
	Asia								
XIV	41270	-	90	Cooked	9-12	No	No	SFB, oil, CSB	Yes
1 Andhra Pradesh	2438	Day Care, Com. Centers, Schls.	83	Cooked	9-12	No	No	SFB, oil	Yes
2 Gujarat	2216	Day Care, Com. Centers	98	Cooked	9-12	No	Yes	SFB, oil	Yes
3 Haryana	355	Schools	65	Cooked	9	No	No	SFB, oil	No
4 Karnataka	5208	Schools	99	Cooked	9	No	No	SFB, oil	No

TABLE III CONTINUED - INFRASTRUCTURE AND FOOD DISTRIBUTION IN CARE

PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	No. CENTERS	TYPE OF CENTERS	% CENTERS RURAL	TYPE OF DISTRIBUTION	No. MONTHS PER YEAR	SCREENING OF BENS. Health or Nutritonal Status	SCREENING OF BENS. Income Level	COMMODITIES DISTRIBUTED	ANY INDI FOO
5 KERALA	4381	Com. Centers, Health	99	Cooked	9-12	No	No	SFB, Oil, CSB	Yes
6 MADHYA PRADESH	6147	School, Day Care, Health	91	Cooked	9-12	No	No	SFB, oil	Yes
7 MAHARASHTRA	2790	Day Care, Com. Centers	100	Cooked	12	No	No	SFB, oil, CSB	Yes
8 ORISSA	2176	Com. Centers, Day Care	97	Cooked	12	No	No	SFB, oil	No
9 PUNJAB	467	Schools, Day Care, Health	61	Cooked	9-12	No	No	SFB, oil	No
10 RAJASTHAN	4178	Schools, Health	99	Cooked	9-12	No	No	SFB, oil, CSB	No
11 TAMIL NADU	4721	MCH, Day Care, Health, Factories	77	Cooked	12	No	Yes	SFB, oil	Yes
12 UTTAR PRADESH	4091	Day Care, Com. Centers, Health	98	Cooked	12	No	No	SFB, oil	Yes
13 WEST BENGAL	2095	MCH, Com. Centers, Day Care, Health	3040	Cooked	12	No	No	SFB, oil	No

TABLE III CONTINUED - INFRASTRUCTURE AND FOOD DISTRIBUTION IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	No. CENTERS	TYPE OF CENTERS	% CENTERS RURAL	TYPE OF DISTRIBUTION	No. MONTHS PER YEAR	SCREENING OF BENS. Health or Nutritional Status	SCREENING OF BENS. Income Level	COMMODITIES DISTRIBUTED	ANY INDIGENOU FOOD
14 KASA	7	Health, Com. Centers	100	Take home	12	Yes	Yes	Locally purchased wheat, ground nut, etc.	Yes
XV KOREA	481	Day Care	50	Cooked	12	No	No	SFF, CSB, oil	Yes
XVI PAKISTAN	250	MCH	62	Fortnightly monthly take home	12	No	No	WSDM, WSB, oil	No
XVII PHILIPPINES	150	Schools	100	Cooked	9	No	No	--	--
XVIII SRI LANKA	1398	Coops, Health, Com. Centers	Over 50	Fortnightly take home	12	Yes	No	WSB	Planned

TABLE IV. - FOOD RELATED NUTRITION INPUTS IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	RATION SIZE Daily (gms)	RATION SIZE Monthly (lbs)	Form in which consumed	Nutrient value of Ration Calories	Nutrient value of Ration Protein (grams)	Calculated % daily deficit covered by Ration Calories	Calculated % daily deficit covered by Ration Protein	Source of techn. assistance in program
I JORDAN	100	6.6, 7.8		470 560	20 30	100	100	Govert.-NGO
II LIBERIA	40	2.65		140	8			
III TUNISIA	60	3.97	Gruel, Porridge, Bread	216	8			Govt.
IV TURKEY	88	-	Snack or Meal	356	13.2	90	250	Red Crescent
V CHILE	300 400	-	Cookies, Beverage, Meal	1200 1600	60 80	100	100	Semi-Govt. Conpan
VI COLUMBIA	60-115	6.5	Meal	300-450	16-28	68	150	PENA-ICBF
VII COSTA RICA	80-115	5.6 7.1	Snack or Meal	300-400	16-18	50-80	120-160	Govt.
VIII DOMINICAN REPUBLIC	95	6.25	Porridge, Bread	360	16.8	71	168	Govt.
IX ECUADOR	106	5-7	Colada, Fired Snacks	350-400	16-20	78	100	INNE Govt.
X GUATEMALA	125	8.3	Bread, Soup, Porridge, Atole	564	25	100	100	INCAP

TABLE IV. CONTINUED - FOOD RELATED NUTRITION INPUTS IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	RATION SIZE Daily (gms)	RATION SIZE Monthly (lbs)	Form in which consumed	Nutrient value of Ration: Calories	Nutrient value of Ration: Protein (gms)	Calculated % daily deficit covered by Ration: Calories	Calculated % daily deficit covered by Ration: Protein	Source of technical assistance in program
XI HAITI	113.5	6.5, 7.5	Meal or Snack	350,400	20-23	50- 60	100	Govt.
XII HONDURAS	118	4.9	Atole, hot lunch	425	24	90-100	100	Govt.
XIII NICARAGUA		-	-	-	-	-	-	CARE
XIV INDIA	87	-	Snack or Meal	363	13.6	80	250	Govt. - CARE
1 Andhra Pradesh	87	-	Meal	363	13.6	80	250	Govt.-CARE
2 Gujarat	87	-	Meal	363	13.6	80	250	Govt.-CARE
3 Haryana	87	-	Meal	363	13.6	80	250	Govt.-CARE
4 Karnataka	87	-	Meal	363	13.6	80	250	Govt.-CARE
5 Kerala	87	-	Meal	363	13.6	80	250	Govt.-CARE
6 Madhya Pradesh	87	-	Meal	363	13.6	80	250	Govt. - CARE
7 Maharashtra	87	-	Meal	363	13.6	80	250	Govt.-CARE
8 Orissa	87	-	Meal	363	13.6	80	250	Govt.-CARE

TABLE IV CONTINUED - FOOD RELATED NUTRITION INPUTS IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	RATION SIZE Daily (gms)	RATION SIZE Monthly (lbs)	Form in which consumed	Nutrient value of Ration Calories	Nutrient value of Ration Protein (gms)	Calculated % daily deficit covered by Ration Calories	Calculated % daily deficit covered by Ration Protein	Source of technical assistance in program
9 PUNJAB	87	-	Snack	363	13.6	80	250	Govt.-CARE
10 RAJASTHAN	87	-	Meal	363	13.6	80	250	Govt.-CARE
11 TAMIL NADU	87	-	Meal	363	13.6	80	250	Govt.-CARE
12 UTTAR PRADESH	87	-	Meal	363	13.6	80	250	Govt.-CARE
13 WEST BENGAL	87	-	Meal	363	13.6	80	250	Govt.-CARE
14 KASA	50-100	-	Weaning food	350-400	12-15	100	100	Min. Health
XV KOREA	335	-	Meal	1000	29	100	100	Govt.-NGO
XVI PAKISTAN	45.3	3.0	Snack or Meal	264	6.2	48	75	CARE
XVII PHILIPPINES	-	-	Hot Lunch	500	17	100	100	Govt.
XVIII SRI LANKA	50	3.3	Rice extender, Soup	180	10	60	80	Min. Health, CARE

TABLE V. - POTENTIAL COVERAGE OF TARGET POPULATION IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975.

I.D. No.	No. in 0-6 age ('000)	No. 0-6 age group malnourished in the country ('000)	% targetted in program (assuming all bens. to be malnourished)	% actually covered by program (assuming all bens. to be malnourished)	% targets achieved (PIE utilization ÷ targets)
I JORDAN	416	250	7.4	5.5	75
II LIBERIA	192	134	1.3		
III TUNISIA	916.4	307	6.1	5.5	90
IV TURKEY	8000	520	8.4		
V CHILE	166	100	21	13.5	64.5
VI COLUMBIA	3790	2500	15.2	11.9	78
VII COSTA RICA	320	152	21.6	21.1	95
VIII DOMINICAN REPUBLIC	768	538	42.7	36.7	86
IX ECUADOR	1072	429	18.6	18.6	100
X GUATEMALA	900	697	12.9	7.1	55
XI HAITI	686	549	3.4	3.4	126
XII HONDURAS	674	492	8.1	8.1	100
XIII NICARAGUA	35.2	26.7	15	15	100

*Not all programs screen beneficiaries prior to enrollment, therefore all those covered are not necessarily malnourished. Columns 4 and 5 show the potential coverage if all programs were selective.

TABLE V. CONTINUED - POTENTIAL COVERAGE OF TARGET POPULATION IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	No. in 0-6 age ('000)	No. 0-6 age group malnourished in the country ('000)	% targetted in program (assuming all bens. to be malnourished)	% actually covered by program (assuming all bens. to be malnourished)	% targets achieved (PIE utilization ÷ targets)
XIV INDIA	115,000	64,611	5.5	2.75	50
1 ANDHRA PRADESH	7,790	5,842	4.2	2.2	53
2 GUJARAT	5,530	4,148	5.3	3.0	57
3 HARYANA	2,180	1,526	2.3	0.7	31
4 KARNATAKA	5,670	4,252	12.6	3.8	31
5 KERALA	3,990	2,593	16.9	12.2	72
6 MADHYA PRADESH	7,840	6,272	9.8	6.0	61
7 MAHARASHTRA	9,610	7,202	3.9	4.2	110
8 ORISSA	4,050	3,240	6.7	2.5	38
9 PUNJAB	3,200	2,240	1.9	0.8	40
10 RAJASTHAN	5,340	4,005	10.4	1.6	15.1
11 TAMIL NADU	6,340	4,755	10.1	10.1	105
12 UTTAR PRADESH	1,740	12,780	3.2	0	0

TABLE V. CONTINUED - POTENTIAL COVERAGE OF TARGET POPULATION IN CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975.

I.D. No.	No. in 0-6 age ('000)	No. 0-6 age group malnourished in the country ('000)	% targetted in program (assuming all bens. to be malnourished)	% actually covered by program (assuming all bens. to be malnourished)	% targets achieved (PIE utilization ÷ targe
13 WEST BENGAL	9,060	7,248	2.9	2.3	81
14 KASA	15	11	100	100	100
XV KOREA	2,420	1,452	3.1	3.1	100
XVI PAKISTAN	1,009	874	4.6	4.6	100
XVII PHILIPPINES	7,000	4,900	0.3	0.	0
XVIII SRI LANKA	2,700	2,025	9.9	7.9	79

TABLE VI - COST CALCULATIONS FOR CARE

PRESCHOOL NUTRITION PROGRAMS

IN FISCAL YEAR 1975

	Total Budget: Malnourished In Country $	Total Budget: Bens. Targette $
Africa/ Middle East		
I Jordan	0.95	12.89
II Liberia	0.78	5.88
III Tunisia	0.16	1.91
IV Turkey	0.14	1.64
Latin America/ Caribbean		
V Chile	20.00	95.24
VI Columbia	5.80	38.16
VII Costa Rica	23.68	109.42
VIII Dominican Republic	0.61	1.42
IX Ecuador	5.36	28.75
X Guatemala	1.49	8.98
XI Haiti	0.02	0.71
XII Honduras	1.69	20.8
XIII Nicaragua	(3.97)	(26.5)

TABLE VI CONTINUED - COST CALCULATIONS FOR CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

		Total Budget: Malnourished in Country $	Total Budget: Bens. Targetted $
Asia			
XIV	India	0.61	9.57
1	Andhra Pradesh	0.32	7.68
2	Gujarat	0.78	14.69
3	Haryana	0.15	6.37
4	Karnataka	0.68	5.56
5	Kerala	1.48	8.78
6	Madhua Pradesh	0.98	10.05
7	Maharashtra	0.32	8.36
8	Orissa	0.94	13.99
9	Punjar	0.14	7.33
10	Rajasthar	1.17	11.22
11	Tamia Nadu	1.18	11.63
12	Uttar Pradesh	0.26	7.99
13	West Bengar	0.28	9.83
14	Kasa	5.01	5.01
XV	Korea	1.10	35.55
XVI	Pakistan	0.15	3.25
XVII	Philippines	0.02	7.68
XVIII	Sri Lanka	1.13	12.10

TABLE VII. - STATISTICS OR TARGET GROUPS AND ENVIRONMENT OF CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975.

I.D. No.	Population Growth Rate	Infant Mortality Rate	Preschool Mortality Rate	Literacy (%)	Annual per capita income ($)	% Prevalence of PCM				% National Budget for Nutrition & Health	Presence of Natio Agency o Plan-Nut rition
						I	II	III	Total		
I JORDAN	3.3	115		85	600				60		No
II LIBERIA	2.7	137							70	9	No
III TUNISIA	2.2	120	7.2	40		20	13	0.5	33.5		Yes
IV TURKEY	2.5	119		60	525				65	4	No
V CHILE	1.7	88	6.3	83	500				60		Yes
VI COLUMBIA	3.4	76	9.2	50	120				66	7.13	Yes
VII COSTA RICA	2.7	56	4.5	89	500	34	12	1.5	47.5	12	Yes
VIII DOMINICAN REPUBLIC	3.4	64	7.9	49	213	49	23	9	78	13.5	
IX ECUADOR	3.4	91	21.5	74	290	29	10	1	40	8	No
X GUATEMALA	2.6	88		20	332	49	26.5	5.9	81	11-12	Yes
XI HAITI	2.4	150	10	10	78				60	13	No
XII HONDURAS	3.2	85 urban 128 rural		47	125	43	27.2	2.3	72.5	2-6	Yes

TABLE VII. CONTINUED- STATISTICS OR TARGET GROUPS AND ENVIRONMENT OF CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	Population Growth Rate	Infant Mortality Rate	Preschool Mortality Rate	Literacy (%)	Annual per capita income ($)	% Prevalence of PCM				% National Budget for Nutrition & Health	Presence of National Agency or Nutrition P
						I	II	III	Total		
XIII NICARAGUA	2.9	100				45	25	6	76		
XIV INDIA	2.5	122	10						75	10	Yes
1 ANDHRA PRADESH		>100	>10						75		
2 GUJARAT		>100	>10						75		
3 HARYANA		>100	>10						70		
4 KARNATAKA		>100	>10						75		
5 KERALA		75-100	8-10						65		
6 MADHYA PRADESH		>100	>10								
7 MAHARASHTRA		>100	>10						75		
8 ORISSA		>100	>10						80		
9 PUNJAB		>100	>10						70		
10 RAJASTHAN		>100	>10						75		

TABLE VII. CONTINUED - STATISTICS OR TARGET GROUPS AND ENVIRONMENT OF CARE PRESCHOOL NUTRITION PROGRAMS IN FISCAL YEAR 1975

I.D. No.	Population Growth Rate	Infant Mortality Rate	Preschool Mortality Rate	Literacy (%)	Annual per capita income ($)	% Prevalence of PCM				% National Budget for Nutrition & Health	Presence o National Agency or Nutrition
						I	II	III	Total		
11 TAMIL NADU	2.5	>100	>10						75		
12 UTTAR PRADESH	2.5	>100	>10						75		
13 WEST BENGAL	2.5	>100	>10						80		
14 KASA	2.5	>100	>10						75		
XV KOREA	2.0	60		98	300				60		
XVI PAKISTAN	3.3	142							75-80		
XVII PHILIPPINES	3.3	67		95	170	40	29	6	75	0.1	Yes
XVIII SRI LANKA	2.2	48		60	81	39	31	9	79	4.5	Yes

III. A CLASSIFICATION OF PROGRAMS AND SELECTION OF COUNTRIES FOR IN-DEPTH STUDY

To select countries for in-depth field study, which are representative of the most commonly encountered types of CARE pre-school nutrition programs, a system of classification was needed. The following primary characteristics were used to sort CARE's current pre-school nutrition programs into six distinct groups. (Tables VIII-X)

1. Take-Home or On-Site Feeding.
2. Targetted, i.e., Nutritional Status Used to Select Beneficiaries, or Non-Targetted.
3. Free or Charge to Beneficiaries.
4. Predominantly Rural, i.e., more than 50% of centers in rural areas, or predominantly urban.
5. Type of center including MCH, Day Care, Community, and Rehabilitation, as well as Primary Schools, Factories, and Government Fair Price Food Shops.
6. Integrated with some components of nutrition education, health services, family planning and/or agriculture, or non-integrated. It was not possible to ascertain from the existing data the degree to which these planned activities actually take place on a regular basis.

TABLE VIII: CLASSIFICATION OF CARE'S PRE-SCHOOL FEEDING PROGRAMS BY GROUP

Group I On-Site, Non-Targetted, Free, Predominantly Rural at MCH, Day Care and Community Centers and Primary Schools

Honduras (charge)	Korea (charge)	Philippines (urban)	
Colombia (charge)			
ALL INDIA			
Andhra Pradesh	Gujarat	Haryana	Karnataka
Kerala	Madhya Pradesh	Maharashtra	Orissa
Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh
West Bengal (urban)	Kasa/Maharashtra		

Group II Take-Home, Targetted, Charge, Predominantly Rural at MCH and Community Centers

Jordan	Colombia	Nicaragua	Dominican Republic
Kasa/India	Costa Rica		

Group III Take-Home, Targetted, Free, Urban or Rural at MCH, and Community Centers

Ecuador	Sri Lanka	Tunisia	Turkey

Group IV Take-Home, Non-Targetted, Free or Charge, Predominantly Rural at MCH Centers

Guatemala	Honduras	Liberia	Pakistan

TABLE VIII

Group V On-Site, Charge, Urban or Rural at Day Care Centers

Chile	Jordan	Haiti	Costa Rica

Group VI

Colombia	Haiti	Tunisia

One country from each of the above groups, except Group VI, was selected for in-depth study in Phase II of theproject. Group VI was eliminated because nutrition rehabilitation center style programming makes up only a fraction of CARE's preschool nutrition activities. Worldwide, and in the listed countries rehabilitation centers make up only a small portion of the total program. It is felt that ample research on the relative effectiveness of nutrition rehabilitation centers has already been carried out by others and can be consulted in this project.

The countries chosen for in depth field study within each group will now be described along with the rationale followed for choosing one particular country instead of others in the group.

Group I - Tamil Nadu/India was chosen to represent this group. Since the majority of 'on-site'feeding worldwide for CARE is in India it seemed appropriate to choose a state in India to represent this group. Tamil Nadu was singled out from other states because the delivery system there seems to be particularly efficient.

Group II - The Dominican Republic was chosen to represent this group because of its high coverage of the malnourished population and the high efficiency of its delivery system.

Group III - Sri Lanka was chosen to represent this group because it is definitely a targetted program with nutrition selectively of beneficiaries. The efficiency of the delivery system is high in Sri Lanka and the food distributed, Thriposha, is partially indigenous.

Group IV - Honduras was chosen to represent countries in this group because the efficiency of the delivery system is high.

Group V - Costa Rica was chosen to represent this group because the program at nutrition centers there is geared to the most needy group. Coverage of the total malnourished population is good in this program, and efficiency is high. The ration is generous with a large input of local foods.

Table IX CLASSIFICATION OF CARE's PRESCHOOL TAKE-HOME FEEDING BY PROGRAM CHARACTERISTICS

Type of Center	TARGETTED				NON-TARGETTED	
	FREE/URBAN	FREE/RURAL	CHARGE/URBAN	CHARGE/RURAL	FREE/RURAL	CHARGE/RURAL
MCH	Tunisia* Ecuador*	Turkey Sri Lanka*		Jordan * Colombia* Dominican Republic Nicaragua Kasa/India	Liberia Pakistan	Guatemala Honduras*
Day Care			Costa Rica*			
Community	Ecuador*			Colombia* Kasa/India*		
Government Fair Price Food Shop		Sri Lanka*				

* Countries with asterisk have more than one type of program.

Table X CLASSIFICATION OF CARE'S PRESCHOOL ON-SITE FEEDING BY PROGRAM CHARACTERISTICS

Type of Center	TARGETTED			NON-TARGETTED			
	FREE/URBAN	CHARGE/URBAN	CHARGE/RURAL	FREE/URBAN	FREE/RURAL	CHARGE/URBAN	CHARGE/RURAL
MCH			Haiti*	West Bengal*	Kerala* Madhya Pradesh* Rajasthan* Maharashtra* Orissa* Punjab* Uttar Pradesh*		
Day Care		Chile Costa Rica*	Jordan* Haiti*	West Bengal*	Andhra Pradesh* Gujarat* Madhya Pradesh* Punjab* Uttar Pradesh*	Korea	Honduras* Tamil Nadu* Colombia*
Community				West Bengal*	Andhra Pradesh* Gujarat* Kerala* Maharashtra* Orissa* Uttar Pradesh*		
Primary School				Philippines	Andhra Pradesh* Haryana Karnataka Madhya Pradesh* Punjab* Rajasthan*		
Rehabili-tation	Tunisia*		Colombia* Haiti*				
Factories						Tamil Nadu*	

*Countries with asterisk have more than one type of program.

Final selection of countries will only be made after writing to each of these five countries (tentatively chosen) to confirm program characteristics on which we have based our choice. If necessary, alternate countries will be chosen if any of the above are not found to be suitable.

IV METHODOLOGY FOR IN-DEPTH STUDIES

In the second phase of CARE's preschool nutrition project, we want to know:

WHAT PROGRAMS ARE MOST EFFECTIVE AND WHY?

The ultimate goal of all preschool nutrition programs to be studied will be described as: improvement of the nutritional status of preschool children (as measured by improved physical growth).

The review of effectiveness will be conducted first at the program level through a nationwide random sample survey to determine the overall impact of the program as well as to help identify certain especially effective or ineffective centers. Subsequently, at the site level an in-depth case study approach will be followed to determine the reasons for success or failure to achieve impact at certain purposively-selected centers.

II. NATIONWIDE RANDOM SAMPLE OF EFFECTIVENESS:

A. Sampling

In consultation with Dr. Sundar Rao, biostatistician at Columbia University School of Public Health, it has been determined that twenty centers per country in CARE's preschool nutrition program, randomly selected, with stratification for urban/rural proportions, and geographic/ethnic considerations as necessary, should be a suitable sample size for detecting differences between centers at a level of at least p=.05. Checchi and Company, which has done a similar evaluation of child feeding, also recommends from their experience a sample size of twenty centers. (1,2) They feel that this number is more than sufficient and is defensible statistically because it should contain a realistic distribution of projects of varying degrees of success.

Control groups not in the preschool nutrition program will also be selected from the same or adjacent area as the sampled center. It is felt that approximately ten control sites will be needed for comparison with the sampled centers, because one control site may work for several project centers due to a reasonable degree of homogeneity in ethnic groups and economic status among the population. After the random sample of project centers has been drawn, ten areas among the twenty center locations will be chosen for control sites.

Program officials in the capital will be asked to list for each sampled center, three nearby sites that are qualified and would like to have a preschool feeding program but currently do not. For final selection, these potential control sites would have to be similar to the project site for these factors:

1) Major ethnic groups
2) Geography
3) Total population (difference not greater than 5,000)
4) Water Supply and Latrines (difference in availability not greater than 20%)
5) Health Facilities (difference in availability not greater than 20%)

Once the teams are in the field, trial visits will be made to selected locations to confirm their suitability as control sites, keeping in mind comparability of income groups and home living conditions and alternate locations will be chosen if necessary. Once the control site is chosen, houses within a bounded geographic area (a portion of a village) will be numbered and a sample randomly drawn. An attempt will be made to get mothers from the selected houses to all gather their children in a central place for interview possibly through use of an incentive. If this is impossible then house-to-house interviews will be conducted. In these interviews, an initial question would deal with the respondent's prior contact with MCH services and whether she has at least one child who is in the one to-five year age range. If she is presently partaking of MCH, or does not have a child in the appropriate age range, the case would be dropped and replaced with another randomly selected household. This process would continue until an adequate number of control mothers had been surveyed. The sample project centers would be given as much advanced notice as possible and asked to have all beneficiaries-mothers and their children present on the day of the team's visit and a list of thename of the beneficiaries ready.

At each sampled project site, all participant's names (one to five years old) would be listed and a random start and fixed interval process would be followed to choose fifty children, one to five years of age. If several siblings from one family are all beneficiaries, then the oldest child would be included in the sample. According to Sundar Rao, with a sample of fifty children, one should be able to detect differences in arm circumference of 0.5 cm., in height of 2.5 cm., and in weight of 1 kg., at a level of at least p=.05. This figure was obtained by calculation of average standard deviation in growth per year of Indian children, which is 5-6 cms. for height: 2.2 kg. for weight, and 0.5 cm. for arm circumference (3,4). Checchi also has suggested that a sample of fifty children is enough to detect 2-5% improvement in nutritional status over one year, and 5-10% over two years, at approximately 0.5% improvement for each month enrolled in an effective preschool nutrition program (2).

Thus the total sample size will consist of 1,500 children, i.e., fifty children at each of twenty project sites and ten control sites. On all sampled children in theprogram and control groups, the following information will be gathered by interview with mothers or from the center's records:

Age of Child
Sex of Child
Ethnic Group, Religion, Caste, Tribe
Income and Household Possessions
*Length of enrollment of child in the program in months.
*Number of months not in attendance

(*Data to be collected only from Program Beneficiaries using Center's records.)

In the surveys in the first two countries, all children in the random sample will be measured for height, weight and arm circumference. It will be determined from these comparative measurements whether or not arm circumference related to age alone might be a significantly sensitive measure to detect differences in nutritional status among the sampled children in the program and in the control group. If nutritional status as measured by arm circumference agrees favorably with nutritional status measurements made by weight/height ratio, and weight/age, then in the final three country visits, arm circumference alone would be used to measure nutritional status in the initial random

sample survey. In order to be used in lieu of weight or height measurements arm circumferences of 13.0 cms. or less (malnutrition borderline of Jelliffe (5)) would have to correspond to weight/height ratios of 80 percent or less of standard (malnutrition threshhold-Waterlow (6), Burgess, (7) and Center for Disease Control (8)) in at least 90 percent of the one to five year olds measured. However, in the subsequent in-depth case studies at selected centers in all five countries, the children will definitely be measured for height and weight. Number of children with arm circumferences less than 13.0 centimeters in the random sample can be totalled almost immediately according to the Shakir method (9) to determine the proportion of mild to severe malnutrition. This technique is described in the attachment. Percent of standard weight for height will be calculated using the Harvard standard. Program beneficiaries will be measured at the center and their mothers interviewed there. The control group will also be interviewed and measured at a central location or at home if necessary.

From interview with the program administrator at the center, or from center records, will be obtained a description of the preschool nutrition program including:

Size of Ration and Type of Foods (Local and PL 480);
Frequency of Distribution to Beneficiaries (Take-Home or On-Site)
Criteria For Selecting Beneficiaries
Type of Center
Number of Beneficiaries in Program by Category - e.g.:
  Less than three years old and over three years old;
  Pregnant Women, Lactating Women, etc.;
Sponsoring Agency/Ministry;
Criteria for Selection of Beneficiaries;
Regularity of Food Supply;
Regularity of Food Distribution;
Major Problems in Implementation.

Two tests will be used to determine whether programs are having impact based on anthropometric measurements. One test will be whether weight/height and/or arm circumference measurements of the program beneficiaries are significantly higher than those of the control group. The other test will assess whether the nutritional status (by arm circumference and weight/height) is significantly higher for children in the program for six months or more, than for those enrolled forless time. The number of children in the program for over six months with significantly higher weight/height or arm circumference than those in the program for less time will be totalled. Programs will be deemed

effective if nutritional status scores are higher on both tests; probably effective if higher on only one test; and ineffective if not higher on either test. These criteria were successfully used by Checchi in their evaluation study (1, 2). More detail on the interpretation of these tests is included later in the section on Data Analysis. This quasi-experimental design (10) . . is necessary because baseline measurements have not been taken on all beneficiaries. In some clinics, baseline measurements may exist and these will be added to the data for sample children. If baseline data is available, it will be possible to total the number of children whose nutritional status has been increased by the program. In certain countries which already have recent and reliable impact data available through measurement of beneficiaries, no random sample survey would be conducted. Instead, existing data would be used to select centers for in-depth case study.

II. IN-DEPTH CASE STUDY:

Out of the random sample of twenty centers, the five most effective and five least effective will be picked using observations made in visits to the twenty as well as significant differences in number of children with arm circumference greater than 13 centimeters for beneficiaries by length of enrollment, and compared to control groups. Discussions would also be made with government officials responsible for the program as to centers of excellence and poorly-functioning centers. These would be considered for inclusion in the ten best and worst category, even if omitted from the random sample, However, no atypical, showcase sites would be included in the study. While visiting the twenty centers for the random sample, these criteria would be kept in mind for later picking the best and worst centers for the sub-study:

1) Is program functioning according to plan?
2) Is it directed toward the right target group according to the program design?
3) Have children been affected nutritionally?

In this sub-study, the effective centers would be compared to the ineffective centers in an effort to isolate key factors responsible for their varying impacts. Out of the fifty children previously selected for the random sample, half (25) would be randomly selected for the sub-study in each of the ten centers. Thus, a total of 250 children would be in the sample for the

in-depth case study. In addition to the random sample survey data already collected, additional data would be secured as follows:

From Beneficiaries (Interview and Measurement In Home With Mother)

Age of Mother

24-Hour Food Recall;

Length of Time Project Food Lasts;

Number of Persons EatingProject Food;

Substitution of Project Food for Normal Food Purchase

Household Size;

Number of Siblings and Birth Order

Literacy of Mother and Father;

Ratio of Live Children to Births;

Food Knowledge;

Disease History of Child;

Distance to MCH Center;

Suggestions for Improving Program:

Weight and Height Measurements (if not previously taken)·

Percent of Income Spent on Food

Education Level of Mothers

From Program Administrator

Number of Staff and Their Training;

Fees to Beneficiaries andHow Program is Financed Otherwise;

Nutrition Education and Nature;

Health Services and Nature (including Family Planning);

Criteria For Releasing Beneficiaries From Program

Constraints to Expansion;

Weight and Height Measurements of Beneficiaries Upon Entering Program (If Recorded).

From Census and Other Existing Data on Community and Site Characteristics (Obtain for Country as a whole and for Study Area)

Total Population;

Percent Rural;

Birth Rate;

Death Rate;

Infant Mortality;

Potable Water (Percentage of Population with Access);

Sewer Facilities (Percentage of Population with Access);

Doctors (Per 1,000 Population);

Health Facilities (Hospital Beds per 1,000 Population and Health Centers per 1,000 Population and Average Radius of Coverage);

Ethnic Groups

Food Availability and Prices of Staples in Market;

III. COST EFFECTIVENESS:

Cost Data will not be gathered as part of the general field surveys, but will be assigned as a separate task to one team member who should resolve all ambiguities while still in-country. It is suggested that a costing format similar to that used by Checchi as detailed in the attached tables be used to generate final costing information as described in Table F. This costing includes value of the food and distributive costs at international, national, departmental, and local level. One omission in this costing format is the whole category of capital expenditures for materials and equipment including center construction, which may be relevant in some of CARE's programs as described in the attached

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Figure 1

Illustrative List of Costs
Applicable to Nutrition Interventions

I. Capital expenditures
   A. Construction (buildings and structures)
      Labor
      Materials
      Use of equipment
   B. Capital equipment
      Vehicles
      Processing machines
      Cooking equipment
      Medical equipment
      Media equipment
      Agricultural equipment
   C. Training
      Materials
      Facilities
      Labor (administrative, teaching, learning)
   D. Land
   E. Start-up materials (agriculture)
   F. Adaptive research

II. Operating expense
   A. Food, fortificants, and raw materials
      Materials
      Processing
      Distribution
      Inspection
   B. Services provided (materials and labor)
      Education
      Promotion and advertising
      Medical
      Cooking
      Child care
   C. Administration
      Transportation
      Rent (project and office space)
      Office supplies and records
      Fuel and power
      Labor (supervisory and support)
      Vehicle maintenance
      Insurance
      Maintenance of facilities
   D. Costs to participants
      Transportation
      Labor (time)

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TABLE F, part 1: MCH PROJECT COSTS PER RECIPIENT BY LOCATION
(costs in U.S. dollars)

	Food Source	Annual Kg. Per Recipient	Costs Per Kilogram						Annual Cost Per Recipient
			Food	Intl.	Natl.	Department	Local	Total	
COLOMBIA									
Arabia	CARE	58.7	.1939	.0651	.0568	.0799	.1575	.5532	$32.47
Cajica	CARE	57.5	.2119	.0651	.0568	.0799	.1575	.5712	32.84
Neiva	WFP	71.4	.3990	.0545	.0470	.0245	.0572	.5822	41.57
Pereira	CARE	58.7	.1939	.0651	.0568	.0799	.1575	.5532	32.47
Zipaquira	CRS	59.4	.1333	.0678	.0450	.0560	.0677	.3698	21.97
KENYA									
Eldama	CRS	30.0	.2697	.0530	.0383	.0433	.1875	.5918	17.75
Kanzalu	CRS	31.2	.2695	.0530	.0383	.0433	.1875	.5916	18.46
Nakaru	CRS	30.3	.2347	.0530	.0383	.0433	.1875	.5568	16.70
Ngong	CRS	20.4	.1951	.0530	.0383	.0433	.1875	.5172	10.55
Nyeri	CRS	43.6	.2062	.0530	.0383	.0433	.1875	.5283	23.03
PHILIPPINES									
Iloilo	CRS	44.8	.2098	.0441	.0395	.0375	.1115	.4424	19.82
La Union	CRS	43.5	.2460	.0441	.0395	.0375	.1115	.4786	20.82
Manila	CWS	54.4	.1823	.0441	.0584	.0511	.1194	.4553	24.77
Misamis	CRS	43.5	.2460	.0441	.0395	.0375	.1115	.4786	20.82
Naga	CRS	54.5	.2042	.0441	.0395	.0375	.1115	.4368	23.80

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TABLE E, part 1: MCH FEES AND CONTRIBUTIONS IN-KIND BY CHILD FEEDING CENTERS
(costs in U.S. dollars)

Location	Monthly Fees Per Ration	Contributions In-kind	Annual Direct Recipient Charges
COLOMBIA			
Arabia	$0.42	-0-	$ 5.04
Cajica	1.17	-0-	14.04
Neiva	0.42	-0-	5.04
Pereira	0.42	-0-	5.04
Zipaquira	0.75	-0-	9.00
KENYA			
Eldama	$0.29	-0-	$ 3.48
Kanzalu	0.29	-0-	3.48
Nakaru	0.29	-0-	3.48
Ngong	0.29	-0-	3.48
Nyeri	0.29	-0-	3.48
PHILIPPINES			
Iloilo	$0.030	-0-	$ 0.36
La Union	0.015	-0-	0.18
Manila	0.0125	-0-	0.15
Misamis	0.045	-0-	0.54
Naga	0.045	-0-	0.54

TABLE E, part 2: SCHOOL FEES AND CONTRIBUTIONS IN-KIND BY CHILD FEEDING CENTERS
(costs in U.S. dollars)

Location	Annual Fees Per Ration	Annual Contributions In-kind	Annual Direct Recipient Charges
COLOMBIA			
Cogua	$3.00	none	$ 3.00
Neiva	3.75	none	3.75
Pereira	1.98	$0.13	2.11
Rivera	-0-	none	-0-
Zipaquira	1.75	none	1.75
KENYA			
Eldama	$0.87	none	$ 0.87
Kanzalu	3.04	$0.15	3.19
Kigumo	4.35	0.14	4.49
Nakaru	6.96	none	6.96
Tala	1.30	none	1.30
PHILIPPINES			
Iloilo	$1.88	none	$ 1.88
La Union	2.69	none	2.69
Manila	6.72	none	6.72
Misamis	2.63	none	2.63
Naga	0.07	none	0.07

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TABLE D: DISTRIBUTIVE NETWORK COSTS IN CHILD FEEDING PROGRAMS BY COUNTRY AND BY VOLUNTARY AGENCY
(costs in U.S. dollars)

Country / Voluntary Agency	COLOMBIA CARE	COLOMBIA CRS	COLOMBIA WFP	COLOMBIA Total	KENYA CRS	PHILIPPINES CARE	PHILIPPINES CRS	PHILIPPINES CUS	PHILIPPINES Total	3-Country Total
OPERATIONS:										
1. INTL. LEVEL					INTL. LEVEL	INTL. LEVEL				
Intl. Food, m.t.	11,100	12,725	19,733	43,558	*Intl. Food, m.t.*	14,206	22,377	3,022	39,605	84,411
Ocean Freight	722,186	863,226	1,074,640	2,660,052	*Ocean Freight*	626,200[p]	986,450[p]	133,210[p]	1,745,860[t]	4,472,062
Cost/kg.	.0651	.0678	.0545	.0611	*Cost/kg.*	.0441	.0441	.0441	.0441	.0530
2. NATL. LEVEL					NATL. LEVEL	NATL. LEVEL				
Port Charges	29,137	104,504}				Port & Trans.}				
Inland Transport	208,333	347,826}-	778,400		*Inland Transp.*	165,783	414,459	82,892	663,134	
Govt. Admin.	393,664	120,000}				Govt. Admin. }				
Volag Admin.	-	120,000	150,000			*USAID Support*	87,500	218,750	43,750	350,000
Sub-total	631,134	572,330	928,400	2,131,864	*Sub-total*	*Volag Support*	100,000	250,000	50,000	400,000
Cost/kg.	.0568	.0450	.0470	.0489	*Cost/kg.*	Sub-total	353,283	883,209	176,642	1,413,134
					47,850	Cost/kg.	.0249	.0395	.0584	.0357
					.0383					3,592,848
										.0426
3. DEPT. LEVEL					DEPT. LEVEL	DEPT. LEVEL				
Govt. Admin.	300,000	521,739}				Govt. Admin. }				
Warehousing	22,500}-	117,391}-	482,800			Warehousing }	377,276	840,374	154,366	1,372,016
Transport	46,250}					Transport }				
Volag Support	518,750	73,913	-		*Volag Support*	Volag Support}				
Sub-total	887,500	713,043	482,800	2,083,343	*Sub-total*	Sub-total	377,276	840,374	154,366	1,372,016
Cost/kg.	.0799	.0560	.0245	.0478	*Cost/kg.*	Cost/kg.	.0266	.0375	.0511	.0346
					54,000					3,509,359
					54,000					
					.0433					.0416
4. LOCAL LEVEL					LOCAL LEVEL	LOCAL LEVEL				
Local Food, m.t.	972	1,050	5,170	7,192	*Local Food, m.t.*	1,150	1,800	250	3,200	94,955
Total Food, m.t.	12,072	13,775	24,903	50,750	*Total Food, m.t.*	15,356	24,177	3,272	42,805	
					150					
					1,398					
Municipal Costs:					*Municipal Costs:*	*Municipal Costs:*				
Paid Staff	31,250}	84,782}				Paid Staff }				
Depreciation	9,375}		443,900	1,376,826		Depreciation }	735,416	991,516	147,073	1,874,005
Voluntary Staff	416,667}	330,435}			*Voluntary Staff*	Voluntary Staff}				
Other Contrib.	60,417}				*Other Contrib.*	Other Contrib. }				
Direct Costs:					*Direct Costs:*	*Direct Costs:*				
Covered by Fees	1,050,000	279,647}	981,300	2,882,188	*Covered by Fees*	Covered by Fees }	1,096,119	1,705,075	243,582	3,044,776
Recipient In-kind	333,333	237,908}			*Recipient In-kind*	Recipient In-kind}				
Sub-total	1,501,042	932,772	1,425,200	4,259,014	*Sub-total*	Sub-total	1,831,535	2,696,591	390,655	4,918,781
Cost/kg.	.1575	.0677	.0572	.0839	*Cost/kg.*	Cost/kg.	.1193	.1115	.1194	.1149
					262,160					9,439,955
					.1875					.0994
										.2366
5. NETWORK COST/KG.	.3593	.2365	.1832	.2417	NETWORK COST/KG.	NETWORK COST/KG.	.2149	.2326	.2730	.2293

kg. = kilogram;
m.t. = metric ton = 1,000 kilograms;
p. = portional distribution of total (t) ocean freight cost.

TABLE C, part 1: FOOD COST IN MCH FEEDING PROJECTS (CHECCHI)
(costs in U.S. dollars)

Feeding Centers: Location & VOLAG	Persons Served	Food Servings: Menu	Ration in Kilos	Servings Per Year	Prices/ Kilogram	Cost of Annual Ration	Person Per Ratio
COLOMBIA							
ARABIA CARE		CSM	1.362	24	$.286		
		Bulgar	.681	24	.127		
		Oil	.454	24	.265		
		Bread	2.400	24	.147		
117.5 kg. (annual ration)	258		4.897 kg.			$22.78	2
CAJICA CARE		CSM	1.375	24	.286		
		Oats	1.375	24	.183		
		Flour	1.375	24	.141		
		Oil	.670	24	.265		
115.1 kg. (annual ration)	214		4.795 kg.			$24.39	2
NEIVA WFP		Milk, dry	3.600	24	.414		
		Cheese	.960	24	.700		
		Fish	.912	24	.700		
		Corn meal	1.200	24	.080		
		Oil	1.200	24	.400		
		Pulses	.600	24	.200		
		Colombiharina	.454	24	.141		
214.2 kg. (annual ration)	168		8.926 kg.			$85.46	3
PEREIRA CARE		CSM	1.362	24	.286		
		Bulgar	.681	24	.127		
		Oil	.454	24	.265		
		Bread	2.400	24	.147		
117.5 kg. (annual ration)	594		4.897 kg.			$22.78	2
ZIPAQUIRA CRS		Corn meal	2.250	24	.099		
		Flour	2.250	24	.141		
		Oil	.454	24	.265		
118.9 kg. (annual ration)	160		4.954 kg.			$15.85	2
KENYA							
ELDAMA CRS		Bulgar	1.000	12	.101		
		Oil	.500	12	.265		
		Milk, dry	1.000	12	.441		
30. kg. (annual ration)	400		2.500 kg.			$ 8.09	1
KANZALU CRS		Milk, dry	1.000	12	.441		
		Bulgar	1.000	12	.101		
		Oil	.600	12	.265		
31.2 kg. (annual ration)	500		2.600 kg.			$ 8.41	1
NAKARU CRS		Bulgar	1.000	12	.101		
		Milk, dry	.500	12	.441		
		Oil	1.000	12	.265		
50.0 kg. (annual ration)	240		2.500 kg.			$ 7.04	1
NGONG CRS		Milk, dry	.250	12	.441		
	1,400	Bulgar	1.000	12	.101		
		Oil	.454	12	.265		
20.4 kg. (annual ration)			1.704 kg.			$ 3.98	1
NYERI CRS		Milk, dry	.907	12	.441		
		Oil	.454	12	.265		
		Bulgar	2.269	12	.101		
43.6 kg. (annual ration)	830		3.630 kg.			$ 8.99	1

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NETWORK DISTRIBUTION COSTS

	Amount	US$/kg.
International		
Administration of foreign food source	(Not calculated - a constant)	
Voluntary agency administration (foreign location)	(Not calculated - a constant)	
Foreign food deliveries, kg.	12,725,000	
Foreign freight costs	$560,930	$.0441
National		
Port handling charges	$ 33,340	$.0026
Ministry school restaurant funds	291,670	.0229
National Institute of Family Welfare		
-construction fund	145,830	.0115
-budgetary support for department programs	144,170	.0113
Voluntary agency (in country)	(See below. Other costs not available)	
Departmental Government		
Counterpart staff and logistics	$562,500	$.0442
Transportation from port	238,330	.0188
Warehousing costs	35,000	.0028
Dept. feeding programs administrative costs	614,580	.0483
Office space furnished to voluntary agency	20,830	.0016
Support staff in voluntary agency	135,420	.0106
Transport to feeding centers	46,250	.0036
Sum of above data	$2,828,850	$.0223
Local Municipal and Child Feeding Level		
Foreign food deliveries, k.g.	11,125,000	
Local food purchases (estimate from costs on the base of $0.20 per kilogram and $393,750 contributed in-kind items below)	1,968,750	
	13,093,750	
Financing of feeding center staff	$ 31,250	$.0024
Contributions to kitchen construction	93,750	.0072
Scholarships for supplemental feed	22,920	.0017
In-kind contributions from commercial firms and other entities	60,420	.0046
Voluntary staff providing fee labor (estimated value)	416,670	.0318
Child in-kind contributions (estimated value)	333,330	.0255
Sum of above local data	$ 958,340	.0732
Sum of central data above	2,828,850	.2223
Total distribution sum	$3,787,190	$.2955

Figure 1 from the MIT/Harvard suggestions on costing (11). It must be decided by whoever is assigned to do the costing as to which data format would be more appropriate to the average CARE preschool feeding program. Certainly the majority of the expenditures are for the food itself and distribution costs. Final total program budget will be divided into ratios so as to generate annual cost/effectiveness information as follows:

1. Cost/annual ration delivered
2. Cost/nutrients delivered in ration (100 calories, 10 grams protein)
3. Cost/Kilogram of food delivered
4. Cost/5% average annual increase in % of standard arm circumference or weight for height

Financial information will be obtained through interviews with persons responsible for the program at various levels and through existing records. In addition this team member will attempt to assess government commitment to nutrition through review of national budget for nutrition programs in general.

IV. EFFICIENCY OF DELIVERY SYSTEM FOR FEEDING INPUTS AND PROGRAM HISTORY

It is recognized that one of the major bottlenecks for expanding existing preschool nutrition programs or improving their impact resides in failure of the delivery system. Therefore one team member will be given the task of reviewing the present delivery system and attempting to identify points at which it has seriously affected the efficiency of the program. This review will include a look into the program's history to determine key personalities and influential circumstances in its development and especially during the times when it seemed to operate most efficiently. The flow of food components will be described from U.S. to center level and major bottlenecks identified. Any existing program reports covering efficiency will be consulted. This review will attempt to ascertain whether current quality of the program can be maintained if program is expanded. Other efficiency measures as recommended by MIT/Harvard (11) to be determined are:

1. Volume Delivery - This can be measured by the % of the nutrient gap in the target groups diet that the ration could fill. If information on nutrient deficiencies is not available then the % of the daily nutrient requirement that the ration could fill will be calculated. Information will be gathered on why and how present ration level was determined.

2. Coverage and Penetration

For non-selective programs an Excessive Coverage Ratio will be calculated as follows:

$$\frac{\text{Actual Beneficiaries - Malnourished Beneficiaries}}{\text{Actual Beneficiaries}}$$

Potential for expansion will be calculated through a Penetration Measure as follows:

$$\frac{\text{Actual Beneficiaries}}{\text{Potential Malnourished Beneficiaries (Taking into account other agencies nutrition programs)}}$$

3. Personnel Deployment

A labor intensity ratio can be calculated as:

$$\frac{\text{Workers}}{\text{Actual Recipients}} \quad \text{or} \quad \frac{\text{Workers}}{\text{Nutrients Delivered}}$$

V. SURVEY FORMS

Questionnaires as adapted from various nutrition intervention methodologies are attached here (2,11,12). These would be translated into the local language of each country, pre-tested and coded for country specific questions. They would be reproduced in the quantity required in country. Data would be coded on comparable forms for all five countries, and complex data reduced to a single code so that computer analysis will be possible.

All questionnaires will be edited and cross-checked before leaving field site, especially data from two sources, e.g. birth dates, and attendance. Questionnaires will be re-standardized and altered as warranted by initial field trials.

All team members and local staff will be required to keep a daily diary of their work. Team leaders can make a note of reactions at end of the day, who and number interviewed, problems encountered, other data collected, and observations about the project.

VI. EQUIPMENT

Four Salter scales and four infantometers from the Fels Research Institute will need to be purchased for use in each country (a total of 20). Insertion style arm circumference tapes are already available for the survey. In addition small items such as props for assisting in 24 hour food recall, e.g. spoons, and cups will be required.

Four to five vehicles will be required to transport survey teams for two weeks, and two of these vehicles would be needed for an additional week. It is expected that most of these vehicles would be rented for the survey.

VII. SELECTION AND TRAINING OF STAFF

Eight local team members will have to be hired to assist with the survey. It is hoped that the Ministry responsible for the program could secund some staff to CARE for the survey. It would be preferable to have local team members come from the communities chosen for the survey and not from the capital. The team members should be pre-selected if possible before the arrival of the international survey team. Four of the eight would be required for 3 and 1/2 weeks time and the remainder for only 2 and 1/2 weeks. In some instances CARE field officers might be able to be used. All survey staff would be trained in a central location 2 - 3 days. International team members would conduct the training and give trainees a chance to actually measure children and interview mothers with supervision.

VIII. DATA ANALYSIS AND PRESENTATION

A preliminary report on observations regarding the program will be written jointly by team members while still in country and later a final report will be compiled in New York based on statistical data. All survey forms will be precoded except several open-ended questions to be coded later. Analysis will be made by an IBM computer at Columbia University to determine effectiveness of the program by measuring significant differences between fed and non-fed control groups, and within the fed groups for length of time in the program. A computer subroutine for analyzing anthopromatic measurements has been obtained from the Center for Disease Control. Using the following tests, projects can be classified into four types:

	Fed Better than Controls	Fed Longer Better than Fed Less
1. Effective	+	+
2. Probably Effective, Mismatched to Advanged Control Group	-	+
3. Questionable, Wrong Target Group, Control Group More Needy Project Holds Nutrition Status Constant	+	-
4. Ineffective	-	-

This is further outlined in the attached model used by Checchi (2). More significance is given to a positive score on the within program, length of exposure test. This is the best single indicator of program effectiveness according to Checchi and, if positive, should be the decisive test. The Chi square test will be used to determine if differences in nutritional status within group or compared to controls are significant.

Beyond effectiveness data for the program as a whole, we want to know what makes the higher impact centers good and the lower impact ones bad. To generate this information some of the relationships we will calculate correlation co-efficients between are:

Nutritional Status and the following Target Group Characteristics:

Food Practices (24 hour recall)
Food Knowledge
Income
Family Size
Mother's Education
Distance from Center

Correlation Co-efficients will also be calculated for effective Programs and the following Program Characteristics:

Ration Size
Selection Criteria
Nutrition Education
Health Services
Type of Center
Take-Home or onsite Feeding
Regularity of Food Supply
Cost

Figure 1. CHECC1#1

GENERAL DECISION RULE FOR ASSESSING IMPACT OF FEEDING PROJECTS

Two tests are used; they may agree or they may produce conflicting results, which are interpreted as follows:		CROSS-SECTIONAL WITHIN-FED GROUP ANALYSIS: Does the impact of the project improve among those recipients with the most exposure?	
		Yes	No
COMPARATIVE, FED vs. NONFED ANALYSIS: Do recipients have, on the average, better nutritional (or other) statuses than do nonrecipients	Yes	Effective Projects	Questionable Projects
	No	Probably Effective Projects	Ineffective Projects

Program will be ranked by effectiveness and the characteristics of the best will be compared with those of the worst to isolate differences. An attempt will be made to define the minimum ration and participation rates necessary before a program can make an impact on beneficiaries.

Comparisons will be made within country programs and between different countries as applicable. The final report on the survey will describe the community program, and target group characteristics for each project site selected, factors correlated with nutrition status, and a judgment on whether the program is effective. Then all sites will be compared and the program characteristics associated with success will be identified. CARE data can be compared with that previously generated by Checchi for other programs. Consideration will also be given to using multiple regression techniques for data analysis.

IX. TIMING & TASKS

The countries have been tentatively chosen for the study and notified. These are Costa Rica, The Dominican Republic, Honduras, India (Tamil Nadu), and Sri Lanka. The Country Directors will be asked to prepare a list of all centers, get government approval for the survey, recruit staff, and locate potential control groups.

The in-country tasks described in the following charts must be divided among the team members, but it is not yet finalized as to which of these tasks will be assigned to each specific person. This will depend on the persons selected for each survey.

It is realized that more time may be required for some of these tasks but we will only be able to ascertain this after testing the methodology in the first country. The maximum time the team can spend in each country is 5 - 6 weeks, so if time is unrealistic, tasks will have to be simplified.

The scheduled in-country will roughly be as follows:

1st week - Finalize Center Selection, translation and pretest of questionnaire, printing of forms, recruitment and training of staff. Except for training of staff most of these tasks should be already completed upon arrival in country (all team members involved).

2nd week and 3rd week - Random sample survey, one project site per day per team of one international member plus 2 nationals. Two days will be spent at control sites. Each international member visits 4 - 5 project sites and 2 - 3 control sites (all members involved). If reliable and recent evaluation data is already available the random sample survey will not be conducted. Team will proceed immediately with subsequent tasks.

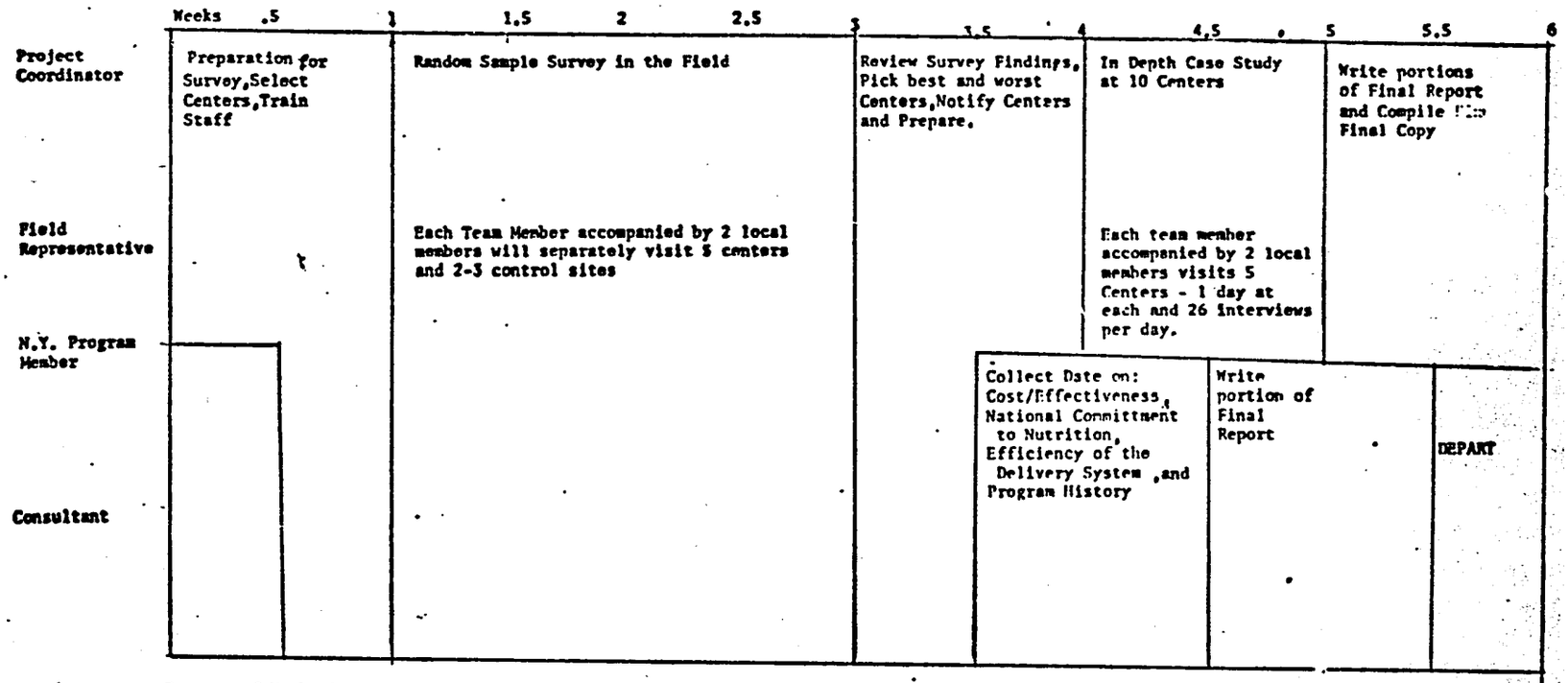
4th week - Review Random Sample Survey Data to pick best and worst centers for further study. Notify centers to have mothers ready. (all team members)

5th week - In-depth case study. Two internationals, each with team of 2 nationals, visit 5 centers spending one day per center and completing 26 interviews during that day.

Concurrently - One international team member looks into cost effectiveness and government commitment to nutrition and one international looks into program efficiency and history. These two team members prepare sections of final report on efficiency, cost effectiveness and overall impressions of the program and then depart.

6th week - All team members jointly write preliminary report based primarily on their observations and come to an agreement as to the conclusions to be included in the report and then depart. The heart of the final report will, however, be the analysis of the statistical data collected. After computer runs in New York are completed the survey data on all Phase II countries will be combined with the preliminary observations written in-country into one final report in New York. This report will highlight program designs most likely to lead to high impact in various environments, and compare and contrast the value of various approaches. Prior to being finalized this report will be circulated to all team members for comment.

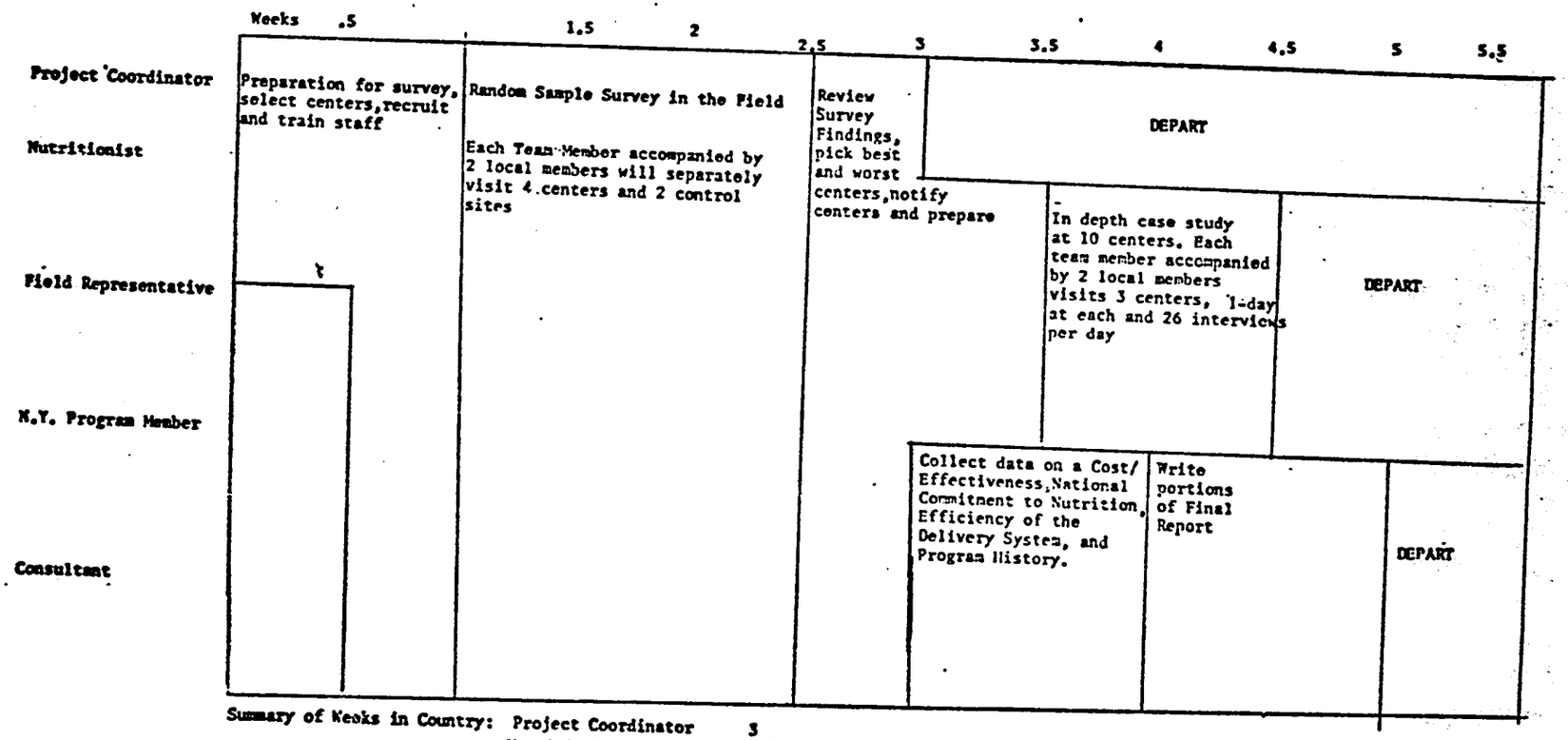
TIMING AND TASKS OF TEAM MEMBERS IN COUNTRY



Summary of Weeks in Country:	
Project Coordinator	6
Field Representative	6
N.Y. Program Officer	3
Consultant	7
Total Team weeks	22

(3 Team Member Alternative)

TIMING AND TASKS OF TEAM MEMBERS IN COUNTRY



Summary of Weeks in Country:

Project Coordinator	3
Nutritionist	5.5
Field Representative	5
N.Y. Program Officer	4.5
Consultant	4.5
Total team weeks	22.5

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The Phase II Methodology has been reviewed and approved by the following people and their suggestions as relevant have been incorporated:

1. James and Catherine Austin, Harvard University
2. Roy Brown, Mt. Sinai School of Medicine
3. R. W. Engel, AID/Philippines
4. Kendall King, Research Corproation
5. James Pines, Transcentury Corporation
6. Jan Rawson, University of Pittsburgh
7. Hugh Roberts, L.I.F.E.

COMMUNITY LEVEL DATA

FOR IN DEPTH CASE STUDY

Fill out one form for the country as a whole, and one form for each community in which a preschool nutrition program or preschool control area is located.

This form is for:

___ The entire country code ___

___ One community/site code ___

Name of local community (barrio, etc.): _____

_____

Village or Municipality: _____

Province or State: _____

Country: _____

A. POPULATION

(use most recent official data)

1. Total population: _____
2. Crude birth rate: _____
3. Crude death rate: _____
4. Infant mortality rate: _____ per 1000 live births
5. Doctors per 1000 population _____
6. Hospitalsbeds per 1000 pop. _____
7. Health Centers per 1000 population _____

B. HEALTH

1. For what proportion of the population of the community are public drains provided?

_____ None
_____ Very few (less than 10%)
_____ Few (10-29%)
_____ Many (30-79%)
_____ Almost all (80-100%)

2. For what proportion of the population of the community are public garbage removal services provided?

_____ None
_____ Very few (less than 10%)
_____ Few (10-29%)
_____ Many (30-79%)
_____ Almost all (80-100%)

3. What proportion of the population of the community has latrines?

_____ None
_____ Very few (less than 10%)
_____ Few (10-29%)
_____ Many (30-79%)
_____ Almost all (80-100%)

4. What proportion of the population of the community has access to "treated" or "protected" water?

_____ None
_____ Very few (less than 10%)
_____ Few (10-29%)
_____ Many (30-79%)
_____ Almost all (80-100%)

C. FOOD AVAILABILITY AND PRICES

1. Name 5 of the most frequently eaten staple foods available in the market currently and list their prices. (Visit market and see)

	Name of Staple	Price per kg. Local Currency	U.S. Dollar Equivalent
a.	_____	_____	_____
b.	_____	_____	_____
c.	_____	_____	_____
d.	_____	_____	_____
e.	_____	_____	_____

D. ETHNIC GROUPINGS

1. What is the largest ethnic group in the community?

_____

2. What proportion of people in the community belong to this group?

_____%

3. What unusual beliefs, if any, does this group have about any particular types of food?

_____

_____

about health?

_____

_____

E. OTHER

Has anything unusual happened in this community during the past year which may have affected the health, or food consumption either in a good way or a bad way? If so, please describe on the reverse side of this form.

GENERAL INSTRUCTIONS FOR FILLING OUT QUESTIONNAIRES

Each question is designed to give a response that can be quantified. In some cases (such as sex or tribe) where the response is not quantifiable, a code number is assigned for the response to stand for a nominal value.

Accordingly, the questionnaire is filled out by either writing in a number in the boxes provided, circling a pre-coded number, or writing in a verbal response and later assigning codes.

A set of identification codes appears on the first page of each questionnaire, except for the community-level data form. The purpose of these identification codes is to aid in categorizing respondents into groups by family, food recipient status, preschool institution, sites, and countries. The following codes should be applied:

Country: (5)	1=Country A 2=Country B 3=Country C 4=Country D 5=Country E
Site: (40)	1=Site A 2=Site B 3=Site C
Institution:	1=MCH center 2=Day care center/nursery school 3=Community center 4=Primary school 5=Orphanage 6=Rehabilitation center 7=Control site
Respondent	1=Mother of preschooler in program 2=Non-program control mother 3=Preschool program administrator
Family:	Codes 001 to 1750: assign one code to each family sampled, so that children can be linked with their mothers
Sponsoring Agency/Ministry	1=Ministry of Health 2=Ministry of Education 3=Ministry of Social Welfare 4=Other (Specify for country)

Survey of Child Feeding Projects

INTERVIEW FOR

PRESCHOOL FEEDING PROGRAM MOTHERS
AN
AND CONTROL MOTHERS

Preschool Center name: _____

Site name: _____

Mother's full name: _____

Interviewer's name: _____

Country code..... _____
Site Code..... _____
Institution code..... _____
Respondent code..... _____
Sponsoring agency
code..... _____
Family code..... _____

Date of Interview: day____ month____ year____

For program mothers: Determine which child or children are currently enrolled in the preschool feeding program. If this mother has more than one child currently enrolled, questions and measurements should concern the oldest enrolled child between the age of 1 and 5 years inclusive. This will be the "sampled child". Write in the name of this child here:

_____

For Control mothers: Select mother as a control only if she has a child between the age of 1 and 5 years inclusive. The oldest child within this age range will be the "sampled child." Write in the name of this child here:

Section I Questions for Mothers in Feeding Program only in Random Sample Survey

1. When did you first go to the Preschool Center at (name of center's location?)

month_____ Year_____

2. When was the last time you visited that Preschool center?

day _____ month_____ year_____

3. Were you attending any other MCH center before you went to the one in (name of center's location)?

yes.....1
no.....2

IF YES:

How many times did you go to this other center?_____

4. How long has (sample child) been enrolled in the MCH center?

months_____

Section II Questions for all mothers in Random Sample Survey

5. What is (sampled child's) date of birth?

day_____ month_____ year_____

DERIVE LATER: Age of child in months: _____

6. Record child's sex:

male.....1
female.....2

Ask to see sampled child so that measurements can be taken.

7. Do you have any of these things in your house?
(name items, observe the presence of each item the family says it has, and circle "yes" or "no" for each item)

	yes	no
Bicycle	1	0
Wristwatch	1	0
Radio	1	0
Chair	1	0
More than one bed	1	0
Sewing machine	1	0
Commercial stove	1	0

8. Ask one or more of the following questions to establish ethnic identity. Alternatively, record ethnicity on the basis of geographic locale or observation of the respondent, where possible.

A. What is your tribe? _____ Ethnic Group

B. What is your caste?

C. What language do you usually speak at home?

D. What is your religion?

(Codes are country-specific)

9. Average monthly income for household _____

10. Derive later U.S. dollar equivalent _____

10. What is you or your husband's occupation? _____

11. How much of your income is used to buy food?

Almost All _____ 75% _____ 50% _____ 25% _____ Less than 25%

ASK TO SEE SAMPLED CHILD SO THAT MEASUREMENTS CAN BE TAKEN.

12. Measure and record child's arm circumference to the nearest 1/4 centimeter.

under 13 cm. 0 over 13 cm. 1

13. Measure and record child's height (to nearest 1/2 centimeter):

Trial #1_____cm.
Trial #2_____cm.
Trial #3_____cm.

14. Measure and record child's weight (to the nearest 1/2 kilogram):

Trial #1_____kg.
Trial #2_____kg.
Trial #3_____kg.

15. Check to see if child has a smallpox vaccination scar (on upper arm, buttocks or thigh)

_____ has scar

_____ does not have scar

Section III Information from Preschool Center Records for Random Sample Survey

16. From center records derive attendance of mother for the past year or since she first entered the program (whichever is most recent):

number of times of possible attendance: _____

number of times of actual attendance: _____

17. Date of birth of sampled child from center records--verify with question # 4)

On the reverse side, record any other information obtained in the interview that may be of value in interpreting the above information, or in better understanding this particular mother's situation and attitudes toward nutrition and the role of the preschool feeding program.

Section IV: INFORMATION FROM PRESCHOOL CENTER

If the following information is available from the Preschool center, record below, for Preschool mothers only.

18. Weight of sampled child at the time of first visit to Preschool center or other prior weighing (to nearest 1/10 kg.):

_____ _____ _____

19. Age in months of sampled child at the time of weighing:

_____ _____ _____

20. Number of months since this weighing:

_____ _____ _____

DERIVE LATER: Weight-for-age at time of first visit to Preschool center (percent of standard):

_____ _____ _____

STOP HERE FOR RANDOM SAMPLE

21. How many of your children are in the preschool feeding program now? _____

22. A. How many children have you ever given birth to? _____

23. How many people now live in your house? _____

24. How many brothers or sisters does (sampled child) have who are older than him/her? DERIVE LATER Birth order _____

_____

25. What is your age? _____

26. Have you had any schooling? IF NO: enter 00 _____

IF YES:

A. What was the highest level (year) of school you completed? (enter number of years of formal schooling) _____

27. Can you read this? (show sample of local writing) yes 1 no 0

28. Can your husband read? yes 1 no 0

29. What is the cause of protein-calorie malnutrition (show photo of child w/pcm)

Derive later	(Lack of proper food, diarrhea)	Valid 1	Invalid 0	(Other reasons e.g. a curse)

30. What should be done if child has protein calorie malnutrition?

Derive later	(Feed proper diet)	Valid 1	Invalid 0	(Other, e.g.

31. Is your child malnourished? Yes 1 No 0

Derive later	Valid 1	Invalid 0

32. Is child breastfed? Yes 1 No 0

IF NO, at what age was breastfeeding stopped? _____ age in months

Derive later	(Breastfed at least 3 months)	Valid 1	Invalid 0	(Breastfed less than 3 months)

33. Does the child receive solid food? Yes 1 No 0

IF YES, at what age was it started? _____ age in months

Derive later	(Solids given by at least 6 months old)	Valid 1	Invalid 0	(Solids given after 6 months ol

Derive later nutrition knowledge score by totalling valid responses to previously asked questions #25-29.

_____
0 - 5 Score

34. Please try to remember all the foods and drinks that you prepared for (sampled child) yesterday.

First, what was prepared for (breakfast or other morning meal?

Type of Food	Estimated Amount	DERIVE LATER Calories	Protein

What was prepared for (lunch or other midday meal)?

Type of Food	Estimated Amount	Calories	Protein

What was prepared for dinner(or other evening meal)?

Type of Food	Estimated Amount	Calories	Protein

Are there any other foods that you gave to (sampled child) yesterday?

Type of Food	Estimated Amount	Calories	Protein

DERIVE LATER
DOES DIET CONTAIN ADEQUATE QUANTITIES OF THESE FOODS:

Category 1
Milk or Milk Substitutes

Yes 1 No 0

Category 2
Meat or meat substitutes-beans, eggs, etc.

Yes 1 No 0

Category 3
Fruit

Yes 1 No 0

Category 4
One green, one yell vegetable

Yes 1 No 0

34. (Continued)

DERIVE LATER: Food Practices Scale (Score 0-7)
(Add yes scores for Category 1-7) _____

DERIVE LATER: Pre-school commodities that were mentioned in the above recall of foods prepared.
Code "yes" or "no" for each commodity currently distributed at the pre-school center.

EXAMPLE:

	Yes	No
Wheat Soy Blend	1	0
Corn Soy Blend	1	0
Bulgur Wheat	1	0
Milk Powder	1	0
Soybean Oil	1	0
Soy-Fortified Flour	1	0
Whey/Soy Drink Mix	1	0
Oats	1	0
Cornmeal	1	0
Flour	1	0
Soy-Fortified Bulgur	1	0
Soy-Fortified Sorghum	1	0

Category 5
MCH commodities served in right quantity

Yes 1 No 0

_____

_____

Category 6
Caloric value adequate

Yes 1 No 0

_____

_____

Category 7
Protein value adequate

Yes 1 No 0

_____

_____

35. Was food given in past 24 hours normal for the child?

yes	no
1	0

If no, explain_____

36. Are there any vitamin pills consumed by the child?

yes	no
1	0

37. Do you usually receive food from the MCH center?

yes..... 1
no..... 2

IF YES:

A. How many people usually eat the food that you bring home from the MCH center?

_____

B. Who usually eats the food? (Do not read response; probe for ages and circle what best applies:

Program child..... 1
Program child plus other children..... 2
Program child plus other children and/or adults..... 3
Only other children..... 4
Only adults..... 5
Others (specify).....
_____ 6

C. Who (specifically) eats most of the food that you bring home from the MCH center? (circle only one)

Program child..... 1
Other child: 0-5 years old..... 2
6-12 years old..... 3
Adult (anyone over 12 years)..... 4
Other (specify).....
_____ 5

D. When you get the food from the MCH center, how many days does the food usually last until it is all gone? _____

38. Have you been able to spend less for your family's food since you have been getting food for your child from the pre-school center?

yes no

39. Did you receive food from the MCH center on your last visit?

yes no

IF YES:

A. How many days has it been since you received this food from the MCH center _____

B. What type of food did you receive from the MCH center? (circle as many as apply)

List CARE and Local Commodities

Wheat Soy Blend
Corn Soy Blend
Bulgur Wheat
Milkpowder
Soybean Oil
Soy-Fortified Flour
Whey Soy Drink Mix
Oats
Cornmeal
Flour
Soy Portified Bulgur
Soy Portified Sorghum

C. Do you have any of this food left?

yes..... 1
no..... 2

D. What type of food do you have left?
(circle as many as apply.

40. Do you have to pay anything to the MCH center?

Yes.....1
No 2

IF YES:

A. How much do you pay each month?

Local Currency_____

U.S. Dollar Currency $_____

41. How long does it usually take for you to travel from your home to the MCH center (one-way trip in minutes)

___ ___

42. Has child had:

	Circle Yes	No
Smallpox	1	0
Measles	1	0
Severe Diarrhea (dysentary, or stools with blood or mucous)	1	0
Pneumonia	1	0

43. Does child have diarrhea now? 1 0

44. On how many days during the past 7 days has the child had diarrhea? _____

45. How much diarrhea has the child had during its life?

Circle: almost none 10% of the time 25% 50% 75% 9

46. Do you work outside the home? Yes 1 No 0

IF YES:

Who watches child? Siblings _____
Grandmother _____
Other _____

47. Do you have any suggestions for ways in which the program could be improved? Please describe: _____

INTERVIEW SCHEDULE FOR PRESCHOOL ADMINISTRATORS

If the preschool center has more than one location, sampling and questioning should concern only data for a single location.

Preschool Center name: _____

Site name: _____

Center Administrator's name: _____

Interviewer's name: _____

The sample of mothers and children is taken from those attending:

___ Main center or center having only one location
___ Subcenter: list name of main center: _____
location of main center: _____

Country code..... ___
Site code..... ___
Institution code.. ___
Sponsoring Agency/ Ministry code.... ___

Date of Interview: Day____ Month_____ Year_____

---

1. When did this center begin operating at this location?

Month _____ Year _____

2. How long have you been working at the center? (months) _____

3. How many people do you serve in the program now who are...

...pregnant or lactating mothers receiving food: _____
...other mothers receiving food: _____
...children receiving food under 3 years old: _____
...children receiving food over 3 years old: _____

4. By what criteria do you select families whose children receive food? (check as many as apply)

____ No criteria

____ Age of children

If YES: What are the age limits?

From age ____ to ____

____ Weight for age

If YES: Check which degree of malnutrition are eligible

1st____ 2nd____ 3rd____

____Low income

_____

____ Other (specify):_____

_____

5. Do the children in the program eat the food you give them here at the center, or is the food taken home and eaten there, or both?

___Food consumed at center only.....1
___Food taken home and consumed there only.....2
___Both of the above.....3

IF FOOD IS CONSUMED AT THE CENTER:

Are the feedings at the center demonstration meals for the mothers?

yes.....1
no.....2

6. Food Rations Per Individual Child per Current Distribution.
If on-site feeding do not fill in column 5

1. Type of Food	2. Amount of Food (KG)	3. Source of Food	4. # of Times Per Month Ration Distributed to One Recipient	5. # of Days This Ration Is Intended To Last Each Child	6. Calories/ Ration	7. Protein/ Ration	8. Calories/ Day (Col.6÷ Col.5)	9. Protein/Day (Col.7÷ Col..5)
IMPORTED FOODS								
LOCAL FOODS								
					TOTAL			

DERIVE LATER TOTAL RATION____Kg.

7. Has there been any change in the composition or amount of the ration in the past year?

yes.....
no.....

IF YES:

a. What was the nature of the change:

Commodities Removed (Specify)_____

Commodities Added (Specify) _____

Daily Ration Size Increased from _____gm to _____gm

For Commodity(Specify)_____

Daily Ration Decreased from _____gm to _____ gm

For Commodity(Specify)_____

b. When did this occur and for how long?

_____ Month by number (e.g. January = 1
March = 3)

_____ Length of change in number of months or

_____ Permanent

8. Do you keep any records on.....(check as many as apply)

____Weight of children at time of program entry
____Attendance of mothers

IF YES TO EITHER QUESTION: ask to see these records for the sampled children and mothers and record this information on mother's questionnaire.

9. Does food arrive on a regular basis? yes_____ no_____

10. Do you distribute food on a regular basis? yes_____ no_____

11. What are the major problems you encounter in running this program?

_____

_____

12. Could this program be expanded? Yes 1 No_____

If no, explain: _____

_____

REMAINING QUESTIONS TO BE ASKED ONLY DURING IN DEPTH CASE STUDY

13. Are mothers required to pay a fee for participation in the feeding program?

yes.....1
no.....2

IF YES:

A. What type of payment is it? (Check as many as apply)

____ Fee
____ In-kind contribution (specify)_____
____ Other (specify)_____

IF A FEE IS PAID:

B. What is the monthly charge per child?

Local currency: _____

U.S. Dollar equivalent $_____

14. Other than mothers fees what funds do you have annually for running this program?

amount _____ source_____

Ministry of Social Welfare

_____

Ministry of Health

_____

Other _____

15. Do you provide instruction in nutrition and health care to mothers?

yes.....1
no.....2

IF YES:

a. Exactly what type of instruction do you provide? (Check as many as apply.)

_____ Classes, how often? _____ daily _____ weekly

_____ fortnightly _____ monthly _____ other

_____ Printed material given mothers

_____ Growth charts on children given to mothers

_____ Mothers work in centers

16. Do you provide medical services to the mothers and children?

yes.....1
no.....2

IF YES:

a. Exactly what type of medical services do you provide? (Check as many as apply.)

Immunization _____

Deworming_____

Examination by Doctor____ how often (specify)_____

Medicines_____

17. How many of the following kinds of staff do you have? (write in number of each type; use decimals for part-time staff)

_____Doctors

_____Nutritionists

_____Nurses

Other para-professionals (specify)

_____ _____

_____ _____

18. Are center staff given special training about the preschool nutrition program?

yes.....1
no.....2

IF YES, please describe _____

_____

19. Is there a limit to the length of time a mother or child may remain in the MCH program?

Yes _____ No_____

IF YES, please check at what point participants are eliminated from the program.

_____ After recuperated from malnutrition

_____ After set period of time, how long _____

_____ Other, please explain _____