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**COLLABORATIVE ASSESSMENT OF
THE CRS MATERNAL/CHILD HEALTH (MCH) AND NUTRITION
PROGRAMME**

ADDIS ADABA, ETHIOPIA

MARCH, 1993

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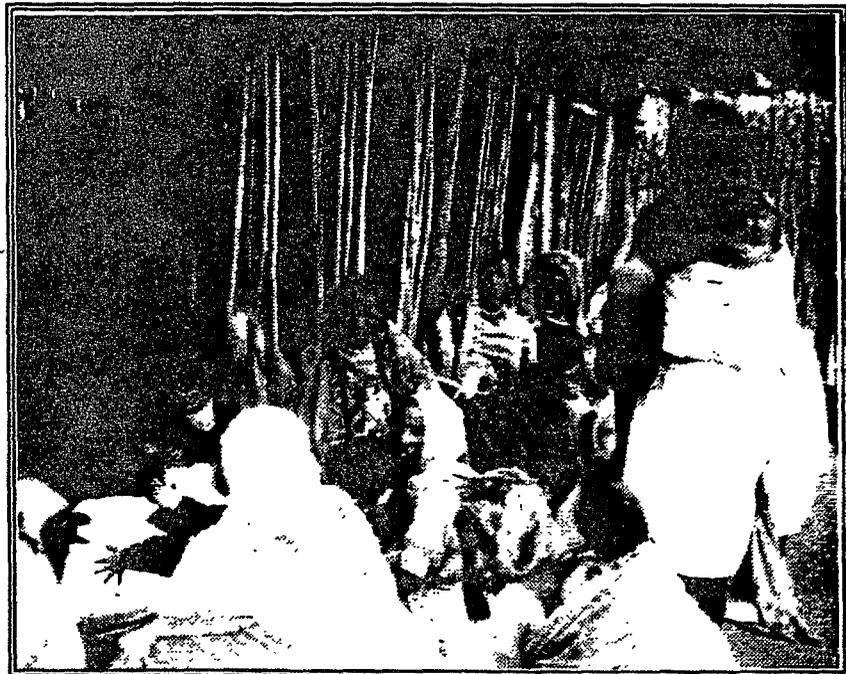
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TABLE OF CONTENTS

Acknowledgments	iii
Executive Summary	iv
I. Introduction	1
II. Methods	2
III. The Study Areas	6
A. Fedis	6
B. Fessa	7
C. Meki	8
D. Medical Systems	9
E. Comparison of Food Insecurity and Health Facilities	10
IV. Institutional Self-Assessment of Priority MCH Programme Issues	10
A. MCH Programme Description and Evolution	10
B. Issues Identified by the Key Levels in the Sub-Systems	11
C. MCH Staff	13
D. Community	14
V. MCH Programme Beneficiaries: Targeting, Selection and Continuity	15
A. Selection Criteria	15
B. Participation	15
C. Characteristics	17
VI. Programme Intervention Quality	25
A. Growth Monitoring/Promotion	25
B. Food Supplementation	27
C. Quality of Interpersonal Communication (Staff-Mother)	28
VII. Integration of MCH into the Community	28
A. Integration into Counterpart Development Programmes	28
B. Community-Based Nutrition Activities	28
C. Integration with Traditional Community Groups	29
VIII. Changes in Nutritional Status and Growth	29
A. Levels of Nutritional Status (1991-1992)	29
B. Monthly Trends in Levels of Malnutrition (1991-1992)	29
C. Growth Patterns	31

IX. Summary and Conclusions: Basis of Options to Assist Counterparts in Planning for Programmatic Improvements	36
A. Strengths	36
B. Weaknesses	36
C. Options for Programmatic Improvement	37

Figures:

Figure 1: CRS Ethiopia Systems Analysis Matrix	3
Figure 2: Sub-systems Model for Agro-Ecological Situations	4
Figure 3: Health Sub-systems Analysis by Geographic Level	11
Figure 4: Age of Entry, New Beneficiaries	16
Figure 5: Infants as % of Total Beneficiaries	16
Figure 6: Targeting of the Severely Malnourished	17
Figure 7: Malnutrition of Beneficiary Mothers	20
Figure 8: Stunting Levels of Mothers by Group	20
Figure 9: Undernutrition of Mothers by Group	21
Figure 10: Mother's Understanding of Growth Chart	23
Figure 11: Child Malnutrition and Mortality	24
Figure 12: Mother's Nutritional Status and their own Child's Status	25
Figure 13: Nutritional Status of all Under Fours, Four Study Areas	30
Figure 14: Trends in Severe Malnutrition	30
Figure 15: Nutrition Status of all Under Fours By Age	31
Figure 16: Positive/Negative Growth Patterns	33
Figure 17: Positive Growth Patterns by Age of Entry	33

Tables:

Table 1: High-risk Indicators Mother/Child Malnutrition	5
Table 2: Characteristics of Undernourished Mothers Four MCH Centres	19
Table 3: Socio-Demographic and Economic Characteristics of Mothers and Malnourished Children	26
Table 4: Percent of Children with Positive Change in Nutritional Status between Beginning and End of 12-Month Period by MCH Centre, 1991-1992	34
Table 5: Growth Patterns of Individual Children Aged 0-48 Months in a 12-Month Period, one Group in Each of Four Study Sites	35
Table 6: Suggested Objectives and Bench Mark Indicators MCH/Growth Promotion Programme, CRS/Ethiopia, MYOP, 1994-1996	40

Appendices:

Appendix I: Agricultural Data	
Appendix II: Maps	
Appendix III: Additional Figures and Tables	
Appendix IV: Instruments	
Appendix V: Work Sheet-Growth Pattern Analysis, From MCH Record Books	

ACKNOWLEDGMENTS

We would like to recognize the collaboration of the three counterpart groups: Abba Tesfaye Debbas, Paulo Piranti and Sister Ababa Kidane, Hararge Catholic Secretariat; Pastor Atrif Fereja and Berhanu Gebre and Biniyam Amtataw, Fessa Adventist Church, Western Shewa; and Father Joe, Sisters Mary and Elizabeth, Meki Diocese, Southern Shewa; to their MCH supervisors/coordinators, contact persons, and team leaders; and to all the MCH workers and community nutrition volunteers, who participated in the focus groups, and to community members who allowed us into their homes. Appreciation to those who encouraged, helped coordinate and/or supported this study: David Palasits, CRS/Baltimore; Mike Harvey, USAID/Addis Ababa; Bob Roche and Lisa Kuennan, CRS/Ethiopia; and to Esther Kazilmani of Pragma Corporation, for work on the data processing and document editing. And last, but not least, to the mothers whom we delayed during their busy schedule to be interviewed and measured in the mini-survey.

EXECUTIVE SUMMARY

Catholic Relief Service/Ethiopia (CRS/E) has a large scale Maternal and Child Health/Nutrition (MCH) Programme in 18 centers in the Eastern and Central Regions of the country. It is presently in the process of reorienting their assistance from food relief and nutritional recuperation towards targeted interventions and community development in order to make more effective use of US-supported food aid by its district-level counterparts.

As part of this effort a collaborative study of the current MCH programme is being carried out with the main objective of assisting the CRS staff, counterparts and participant communities in determining appropriate as well as realistic programmatic change over a transitional three-year period. As a result, centre-based MCH services will become more closely matched with community needs and their own sustainable development. In the process, a baseline and supportive monitoring system will be established to improve targeting and facilitate on-going evaluation.) NW
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This assessment was organized by CRS and is being carried out in a collaborative manner between CRS staff, counterparts and the community, with the technical assistance of external consultants and research assistants. Due to time and resources constraints, Rapid Assessment Procedures (RAP) including a systems analysis, are the central methods. These include both quantitative (eg., mini-survey, growth surveillance data) and qualitative (eg. focus group, key informant, MCH centre observation) methods. Sample sizes ranged from over 8,000 children under-fives, 133 women, 5 group meetings and 3 focus groups. Three of the CRS counterpart agencies and 6 MCH centres agreed to participate. Field visits to these three regions were carried out over 3-5 day periods in Nov., 1992, including planning and training sessions with counterparts at the beginning and debriefing/feedback sessions at the end.

Key issues were identified by decision-makers at each level of the systems analysis. Most emphasis was placed on targetting, nutritional impact, quality of growth monitoring and nutrition education, role of food supplementation, integrating MCH in community development, and self-sufficiency/reliance, among others.

A summary of major findings follows:

1. **TARGETING/SELECTION:** The lack of consensus of basic objectives (rehabilitative vs. preventive) of the MCH programme deters use of a technically appropriate definition of participant selection criteria. Infants (12 months of age and under) represent a low proportion of all under-four children in the study centres, ranging from only 6% to 18%: a high proportion of the under-fours are severely malnourished in one centre (25%) and not in another (2%); a high proportions of new entrants who are severely malnourished in one centre (26%) and not in another (4%); un-systematic definition of poverty criteria for selection (eg., "appears poor"), and widely varying age and nutritional status criteria for graduation.

2. NUTRITIONAL STATUS OF PROGRAMME MOTHERS: Many are chronically undernourished: 45% are stunted (under 152 cm.), and 25% are very thin (mid-upper arm circumference of 22.0 cm and below). Some 28% were observed to be anaemic (very pale eyelids). The characteristics mostly highly associated with mothers' malnutrition are short birth spacing (3-4 children under 5 yrs.), older age (35 and over) and illiteracy.

3. MOTHER'S UNDERSTANDING OF CHILD GROWTH: 80% of the all mothers (and 96% and 88% in Meki and Fedis, respectively) correctly understand the two-coloured assessment criteria on the CRS child growth card; 77% (91% and 87% in Meki and Fedis, respectively) correctly interpreted the meaning (trend) of their child's growth pattern. Fessa and Zegbaboto mothers were not as well educated on the growth chart. In general, mothers often gave a positive perception of their child's growth (especially in Fedis); but this was not highly correlated with their child's real growth.

4. NUTRITIONAL STATUS OF YOUNG CHILDREN: 84% of the nearly 8000 children under four in the study MCH centres are malnourished, 16% with severe malnutrition (under 60% of median). In one MCH centre area, Fessa, there was an increase in the percentage of under-ones with severe malnutrition from 7% to 23% in the previous 12 months, representing a change in targeting procedures; and increase in severe malnutrition in the Meki weekly rehabilitation programme from 12% to 28%, possibly related to the drought and political unrest.

5. GROWTH PATTERNS OF CHILDREN: In the monthly programme, one-third of children participating at least 6 months in certain selected (on basis of being one of the most "successful") pilot centres groups had negative growth patterns (eg., lowered nutritional status or stayed at 65% or below) in the Jan.-December, 1992. This ranged from 22% in Meki, to 46% in Zegbaboto. On the other hand, the percent with positive and/or recuperative growth patterns ranged from 44% in Meki to 16% in Zegbaboto. A younger age at entry appears to positively effect the growth pattern: 34% of the children who began the programme under 2 yrs. of age had positive/recuperative patterns, while only 20% of those who began over 2 yrs. old. were positive/recuperative. Children of the seven trained Fedis community nutrition volunteers have had better growth patterns than the average Fedis child.

6. NUTRITIONAL STATUS OF THE MOTHER AND HER CHILD: The mother's malnutrition is highly associated with her child's: 21% of very malnourished mothers have severely malnourished children, compared to only 5% of well-nourished mothers. Illiteracy is a major factor: there is twice the level of malnutrition in children of illiterate mothers as literate ones (31% to 18%); and none of the literate mothers has a severely malnourished child.

7. SELF ASSESSMENT OF PROGRAMME QUALITY: Long, intensive focus group discussions, facilitated by external consultants, with MCH staff permitted the confidentiality and in-depth self-analysis necessary to assess the programme effectiveness in both positive and negative terms. The staff feel that the programme is helping improve the growth of children and sustain life, and that home visiting is increasing in spite of inadequate logistical support. Other weaknesses mentioned include training, resources, administration and supervision, and insensitivity to community needs.

8. PROGRAMME INTERVENTIONS:

- a) **Growth monitoring**- the mechanics (weighing, plotting, charting) of this intervention were observed to be carried out quite efficiently, with some difficulties in calculating age of children who enter the programme over two years old.
- b) **Nutrition education**- mothers are very knowledgeable about the meaning of the growth chart and their own child's growth pattern in two of the four centres. However, nutrition communications (individual feedback, counselling and group education) are still weak, with little application of DELTA problem-posing techniques.
- c) **The food supplementation component**- it functions relatively efficiently as a incentive for regular participation, and does serve as an income transfer to the very food insecure family. The nutritional effectiveness of the food supplement, however, is unclear, and needs to be further evaluated. Many people interviewed still refer to the MCH programme as a "food" or "feeding" programme.

9. **INTEGRATION INTO THE COMMUNITY:** All three counterparts are trying to extend MCH into the community, with varying degrees of success. Fessa is the most systematic at home visiting, while Fedis and Meki have village outreach activities. Where MCH is being integrated into other development programmes it appears to be a more sustainable approach. Integration with traditional community groups is proceeding slowly, and needs a more culturally sensitive approach.

10. **VACCINATION COVERAGE/COMPLETION:** While it is supposed to be a prerequisite for entry into the MCH programme, some 31% (and 50% and 46% in Zegbaboto and Meki, respectively) of the mini-survey children had not been vaccinated at all (according to their card/or verbal response of mother); and 71% (91% and 88% in Meki and Fessa, respectively) were incomplete or unvaccinated. Most of the MOH health posts nearby have erratic supplies of vaccine, and cooperation between MCH centre and health posts are infrequent.

11. **HOUSEHOLD FOOD SECURITY:** All three MCH centre areas are food insecure at least part of the year, and in 1992 Meki and Fedis were insecure most of the year. Key informant interviews and community-household observation confirmed food stocks being depleted 3-4 months before harvest. Main coping strategies in hungry season include firewood/charcoal and chat sales, out-migration and food relief handout. These time-consuming activities for the mothers dilute child care, health care, hygiene and food preparation activities and also contribute to maternal and child malnutrition. Meal frequency was found reduced from twice to once a day.

Finally, **short- and medium term options for programmatic improvement** are proposed for CRS and counterpart consideration:

SHORT-

- a) Retarget the beneficiaries towards lower age groups (under twos or threes), with selection of entry age at around 4-6 months; and to pregnant women who are undernourished (both changes would contribute to greater effectiveness in preventing malnutrition).
- b) Develop an ongoing nutrition monitoring component, based on revised objectives and bench mark indicators, for use in targeting, management and supervision.
- c) Improve the quality of nutrition education/communication, particularly individualized counselling, and targeted home visits using DELTA methods.
- d) Strengthen the technical capacity of CRS and counterparts for restructuring the programme towards specific MCH objectives in a more preventive, community-based mode.
- e) Increase coordination with the Ministry of Health antenatal and immunization programmes. There should be referral of malnourished mothers and of infants who have completed their DPT series and experience initial growth faltering or are at risk by living in chronically food insecure households. Malaria prevention is also of crucial importance in reducing malnutrition.
- f) Rebuild the morale of the counterpart and centre staff.

MEDIUM-

- a) Develop, through dialogue and consensus-building, a set of common goals and objectives, flexible enough to adjust to individual area circumstances
- b) Reorient to give equal importance to the mother's nutrition and antenatal care
- c) Emphasize integration with sustainable development projects and promote links to household food security.
- d) Carry our studies to increase the cultural understanding and respect for the community and family belief and value systems
- e) Prioritize technical inputs based on assessment and operations research studies and readjust through on-going monitoring and evaluation
- f) Promote coordination of MCH centre activities with other health-related community resource persons and institutions.
- g) Increase the commitment by donors and CRS to monetized food aid funds for programme strengthening

Phase Two of the assessment involves further studies with counterparts and inside communities and households, and developing realistic plans of action, appropriate target groups and an on-going nutrition monitoring system.

I. INTRODUCTION

Problems of hunger, malnutrition, disease and poverty continue to afflict thousands of vulnerable mothers and children in Ethiopia. Their potential for child growth and human resource development is severely compromised by this situation. The recent National Nutrition Survey (1992) documented an increase of moderate and severe malnutrition in children in the past ten years, rising to a level of nearly 50% in children under five. Levels of maternal malnutrition have not yet been firmly established.

During the present transition period, NGOs are reorienting their assistance from relief to rehabilitation and development. Recent pilot experiences in integrated MCH and community-based health and nutrition programmes lend promise to the potential of alleviating maternal and child malnutrition. Catholic Relief Services of Ethiopia (CRS/E) has the only large scale NGO Maternal and Child Health Programme that receives support from the US Government. It presently oversees the functioning of 18 MCH centres in the Eastern and Central Regions of the country, with a total number of 72,000 mother and child beneficiaries.

CRS/E is now in the process of attempting to make more effective use of food aid by their district-level counterparts. In the past year, CRS had taken initial steps to link MCH services more closely with community development. While some progress has been made towards this transition, it is felt that a more systematic and comprehensive approach is needed. Facilitating more involvement of the counterparts and communities in a self-assessment of the food/nutrition/health situation and programme appropriateness might help to generate the commitment needed to mobilize or "jump start" this more participatory process.

As part of this effort, an collaborative study of the current MCH programme is being carried out with the following objectives:

- 1- To assist CRS, counterpart staff and participant communities in determining appropriate as well as realistic programmatic change over a transitional period.
- 2- To develop a baseline in selected representative centres for ongoing programme monitoring and evaluation.
- 3- To increase CRS and counterpart staff knowledge of community health, nutrition and household food security priorities in order to facilitate a transition to a more participatory, community-based programme.

An initial assessment by the CRS staff indicated that three counterparts were more interested in this process: Hararge Catholic Secretariat (HCS), Fessa Adventist Mission and Meki Catholic Diocese. Each counterpart had at least one MCH centre that could be selected as a pilot for this study. These were: Fedis (HCS), Fessa and Meki centres.

A collaborative study team was organized by CRS. External consultants and researcher assistants were contracted to coordinate the more technical aspects and provide impartial analysis of the situation. The CRS and Counterpart team were involved in the operational

planning and coordination, preliminary reconnaissance visits, document review and non-MCH programme analysis of the situation. The study has been planned in two phases:

- 1- Systems Analysis/Institutional Assessment
- 2- Baseline Survey/Knowledge, Attitudes, Beliefs and Practices of Communities

Following completion of the study, CRS/Ethiopia staff in consultation with counterparts, will design a series of capacity-building workshops in order to address programming needs.

II. METHODS

In view of the short time frame and modest resources, a practical research approach called Rapid Assessment Procedures (RAP) was taken. Similar recent assessments of CRS MCH programmes in Africa (Togo, Kenya) also used these approach, with positive results. It combines qualitative and quantitative methods, is participatory and involves programme staff in a capacity-building mode.

The first Phase concentrated on the Systems Analysis. This is an approach which begins with the identification of the system and subsystems within which the programme operates, from the international level across 10 other levels into the household and to the mother and child (see Figure 1). Key issues are identified by decision makers at each level in the system, and these are studied through different methods. A specific sub-systems model for agro-ecological situations was developed to guide the data collection in this important area (Figure 2). The methods identified and instruments developed for Phase 1 are:

Qualitative:

- 1- Formal Focus Groups of MCH staff
- 2- Organized Group Meetings CRS, Counterpart staff and community groups
- 3- Key informant interviews in Food and Health Systems
- 4- Structured Observations of programme activities
- 5- Targeted household observations
- 6- Spontaneous, purposive encounters
- 7- Market surveys and observations

Quantitative:

- 1- Growth Surveillance System (GSS) nutrition status analysis
- 2- Record book growth pattern analysis
- 3- Mini-survey of participants
- 4- Maternal nutrition status assessment
- 5- Available data collection/analysis

Sample sizes ranged from over 8000 children under five (GSS), 132 in the Mini-survey, 70 children in the Growth Monitoring/ Promotion process, to 5 group meetings and 3 focus groups.

Field visits to the three counterpart districts were carried out over 3-5 day periods, including planning and training sessions at the beginning, and debriefing/feedback sessions at the end.

The mini-survey was drafted in order to collect data that permit the construction of important indicators, particularly on the families of the beneficiaries and the mothers. Seven types of indicators were constructed (see Table 1): Maternal and child nutritional status and nutritional deficiencies, health and vaccination status, socioeconomic status, population/demography, programme participation, mother's understanding of her child's growth and the meaning of the CRS growth card, and her maternal role (group membership, child care competence and confidence of her behavior and responses during the interview). Each indicator can be presented in terms of cutoff points, the first for high risk, the second for even higher risk. For example, for the mid-arm circumference indicator of maternal undernutrition, the high risk indicator is 23.5 cms. and under; but an even lower cutoff and higher risk would use be 22 cms. or under. These indicators can be used as a baseline and for planning the retargeting of high risk families and individual beneficiaries.

Limitations in the methodology included the short time frame for Phase 1, shortage of trained counterpart personnel, absence of team members due to illness and other commitments, malaria epidemics and the insecurity situation which limited mobility at night.

Figure 1

CRS Ethiopia Systems Analysis Matrix

LEVELS	Key Issues			
	Food & Nutrition Problems	Participant Selection Targeting	Programme Quality	MCH & CBHC
International				
National				
Region - "Auraje"				
District - "Woreda"				
Town (MCH Centre)				
Village				
Traditional Group				
Household				
Mother/Child				

Sub-systems Model for Agro-Ecological Situations

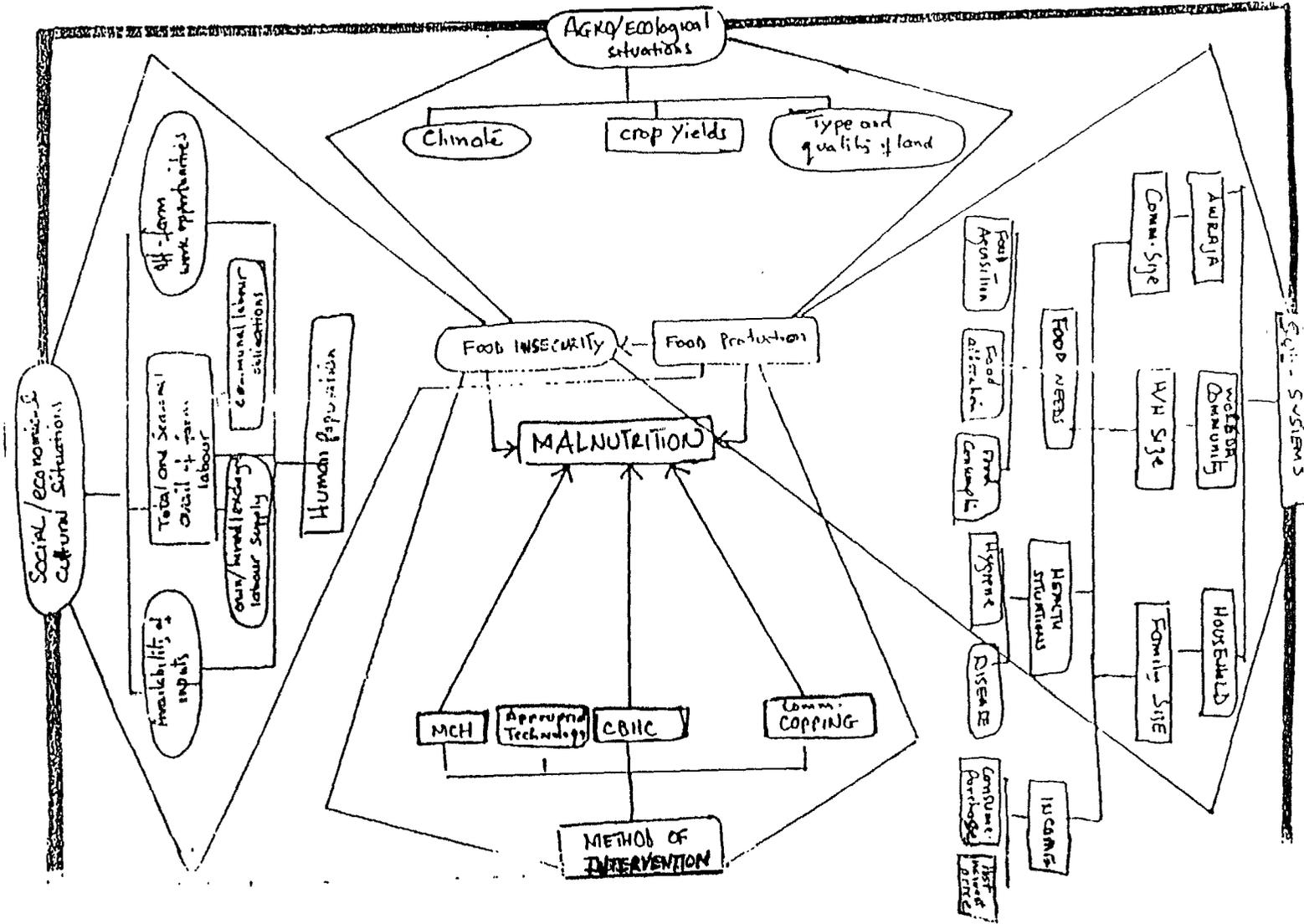


Figure 2

Table 1

**HIGH RISK INDICATORS MOTHER/CHILD MALNUTRITION
MINI-SURVEY, MCH MOTHERS
Four MCH Centers, CRS/Counterparts Assessments**

	INDICATOR	1ST CUTOFF	2ND CUTOFF
MATERNAL ANTHROPOMETRY	Low maternal Height Mat. arm circumference Maternal Anemia	<152 cms <23.5 eyelid pallor	<148 cms <22.0
MATERNAL SOCIAL ECONOMIC STATUS	Maternal Age Marital status minority culture/lang Occupation (husband) Literacy/schooling She earns money	<18 Single % minority group farmer illiteracy not earning money	≥45 widowed no husband 1st grade only
DEMOGRAPHY	Live births Children alive now/lbirths Pregnant (w/ <2 yrs) No. under fives now	≥6 .85 Yes 2	≥8 .75 ≥3
PROGRAMME PARTICIPATION	Years in MCH Program Time waited for entry Has Younger child Distance MCH from Village	≥2 yrs ≥3 mos Yes >5kms	≥3 years ≥6 months ≥10kms
GROWTH CHART	Opinion child's growth Know color growth chart know means color chart	Low Negative Negative	
MATERNAL ROLE	Belongs women's group Child Care confidence Interview behavior	No Medium/low Passive	low
HEALTH NUTRITION STATUS	Vaccination status % weight/age % weight/height Change %wt/age entry	Not at all <60% now <80% now declined ≥5%	Not Updated <70% now <85% now declined ≥10%

III. THE STUDY AREAS

A. FEDIS

Fedis area is extremely diverse in its geology and soil formations even if the agro-ecological situation can be divided into two main groups of highland and lowland. It is fragmented by valleys and consists of plateau and table lands surrounded by escarpments. The soil is shallow, black to dark brown on the highlands and red to red-brown on the lowlands. The population is approximately 125,000. Fedis is structured within 54 Peasant Associations. The average landholding is 2.5 ha. The rainfall regime is typically bimodal even though there has been severe drought since 1989. The main rains occur from June through September. The short rains occur during February through March even if it is insufficient for crop production.

Agriculture in Fedis is mixed farming and is dominated by sorghum and beef cattle production. Fedis used to be a high-potential horticultural/livestock area, particularly in the area of onion production. Human and livestock pressures are not high. However, rugged sites are dominant features with aggravated soil erosion. With aggravated erosion, untimely rainfall and stock borer pest, current crop yields are low. Expected harvest is estimated to be 40% of normal production during good years. Lack of starting capital to be invested in livestock productivity and due to severe drought condition, livestock production is currently low, reflecting an under-exploited resource. Milk offtake from Zebu cows rarely exceeds 300 kgs for a lactation period of less than 7 months.

As in virtually all subsistence oriented agricultural systems, labor supply and allocation is characterized by seasonality. An average family comprises 5 members in Fedis, and the use of non-family members regarding labor supply is rare in the area. Usually the head of the family is male and primarily responsible for farm work, mainly sorghum crop production and livestock rearing. Women are responsible for child care as well as gathering firewood, charcoal production, water supply, and food preparation. Both women and men participate in selling agricultural products in the market. Household decision making is an area for further inquiry. Muslim religion predominates and many marriages are polygamous.

Some of the problems identified in the Fedis area within group meetings and by key informants were:

- Food insecurity (poor harvest: a pest has affected the sorghum)
- Poor immunization coverage offered by MOH clinic
- Severe malaria epidemic
- Some ongoing political instability exists
- Lack of access to potable water.

Successive drought and Derg socialist policies have provoked an emergency situation regarding household food security. During the Derg regime, productivity was obliged and quotas mandated which created a price and productivity disincentive. Currently, some relief food is available in the area to minimally assist food insecure households. Farm families do not

produce sufficient food from their own cropped land and do not produce surplus food over and above minimum family food needs in an average year. Crop prices fluctuate seasonally. A peak season is in the rainy period (June-August) when crops are being planted whereas the lowest prices occur at harvesting and threshing time (November-December) and are considered the best time of purchase for wholesalers. Seasonality regarding cattle prices is minimal. Prices do fluctuate over the year according to the timing of fasting periods, feasts and other celebrations.

The primary language spoken in the Fedis area is Oromogna.

B. FESSA

Fessa is located in the upper Dega (highland) agro-ecological zone with an altitude ranging from 2600 -3000 m.a.s.l. Potatoes, barley, wheat, cabbage and horsebeans, are the main crops. Ensete (55%) is the staple crop for the whole of Gurageland. Perennial crops like ensete are the major farm activity in the highlands, while coffee, chat, banana, as well as ensete grow in the lowlands. Cattle, horses, sheep mules and chickens are important livestock. The population density is 222 persons per square kilometer and the average household family size is seven. The climate is cool in the highlands and warmer in the lower land regions such as Zegbaboto. The area is characterized by a long growing period of more than 240 days of cultivation. The cultivation of ensete is a complex procedure involving five successive nursery stages over a period of 4-5 years.

Ensete is the most important crop in the area. A quarter of a hectare of ensete can provide for the carbohydrate requirements of a family of 5-6 people. The traditional diet of staple food is mainly kocho - bread prepared from ensete. Beans and barley are also used in the highlands as food supplements as kocho is nearly all carbohydrate. Since most families that are heavily dependent on ensete also keep cattle for the manure required by ensete, their protein needs are also supplemented milk. Forty to 60 ensete plants will be enough for an average household with family size of 5 people per year. Coffee and chat are the main cash crops in the lowlands. However, coffee is not produced in abundance due to coffee berry disease. Chat crop is a source of income for purchasing food in times of food insecurity which averages 3-4 months per annum. Income is also supplemented by the brewing of alcoholic drinks (done by women), the sale of livestock and migratory trade activities.

Farming in Fessa area is almost entirely rain fed and practiced predominantly on small land holdings. The average land holding is 3000 -5000 square meters. The homestead agriculture mainly uses hoes for cultivation where few farmers in the lowlands use oxen. As in virtually all rural areas, farm product prices fluctuate seasonally, high in winter season and low in harvest times. Agricultural marketing consists of wholesalers, retailers, casual traders and both licensed and unlicensed farmer individuals dealing in small quantities of commodities.

The amount of land cultivated seems to diminish from year to year as new farmers emerge within a household. All physically able members of the household assist in farm work. Tasks can be grouped as labor for ensete and crop production (land preparation, planting and

transplanting, weeding, ensete processing, harvest of grain crops, threshing, winnowing and storing), livestock production (milking, feeding, breeding, manure collection, barn cleaning, etc.) Ensete and crop production is mainly the responsibility of males whereas the very labour intensive ensete (kocho) processing and livestock production are the responsibilities of women (in addition to numerous other activities).

Problems identified in Fessa area were:

- Absence of crop varieties
- Inadequate water supply
- Shortage of land available for ensete
- Absence of transportation
- Lack of health facilities and shortage of medicine
- Heavy work load of women
- Lack of child care which means children are left unattended
- Many pregnancies and continuous breast feeding which contributes to maternal morbidity and malnutrition
- Lack of deliver services so that women with complications travel long distances to Attat hospital.

Culturally the area is predominately Gurage. There are multiple religious belief systems co-existing. Orthodox, Islam and Catholic religions exist and the traditional Gurage gods and goddesses are also worshiped.

Traditional womens' groups include mariam (a ritual group), and ekub (a traditional rotating, fund raising association). Key informants stated that men usually hold decision making power related to money. The divorce rate is reported to be high, men usually doing the divorcing of women. Once a woman is divorced she keeps the family house, however she cannot re-marry. The reasons given why men decide to divorce women were: she doesn't provide a male son, she doesn't properly entertain the relatives of the husband, and adultery. Health problems such as dental, eye problems, fevers, headaches and rheumatism were prioritized by one key informant. Many women travel miles to Attat Hospital to seek medical assistance for difficult deliveries.

C. MEKI

Meki area is in the Great Ethiopian Rift valley and is characterized by absence of perennial crops. The rainfall ranges from 750-1300 mm/year and has a fairly intensive cropping pattern, including production of maize, wheat, horse beans, peas, teff and pepper as cash crop. The farmer practice extensive utilization of land for livestock since land is not a problem in the area. Topography of the area is flat with moderate degradation due to wind erosion. According to Regional MOA, population density is less then 100 persons/KM. The average family size is about 4 according to Regional MOA estimates.

Some of the problems identified in the Meki area within group meetings and by key informants were:

- inadequate medical care available despite the existence of two clinics
- many communities lack access to potable water
- need for irrigation for farming
- diseases present such as malaria, anemia and kwashiorkor
- need for pit latrines.

Peasant Associations are the lowest institutional unit of the area. Rural infrastructures like road and water development are less developed. The Awraja MOA is supporting the farmers with agricultural technical assistance.

All physically able members of the household assist in farm work. According to MOA estimates, a typical farm of 2.5 ha of cropland with two thirds sown to cereals and one third to pulses requires approximately 1200 hours per year of labor. Of this total, around two thirds is typically supplied by the family, about one quarter is exchange labor and less than 10% is hired. Most labor for cropping is supplied by adult males. Together women and children (less than 15 years old) also contribute up to one third of the total labor input for cropping patterns. Labor inputs to livestock production goes to both female and male members of a household. Livestock sales a source of cash income are used to purchase non-farm items.

The food energy intake is from cereals and the proportion of animal protein to total protein consumption is small. In good years, agricultural surpluses are used to build up the household food reserve and stock numbers.

Accurate data on market surplus is not available. However it is estimated that up to 25% of cereal and pulse production may enter the market. Price variations occur seasonally, cheaper in harvest time and more expensive during rainy season. The state intervention in the marketing system has been changed allowing the free market to take over. Prices were found to vary markedly between areas and over time, with a strong underlying upward trend reflection inflation and scarcity. Key informant information at the wholesaler level led the interviewer to conclude that price of wheat did fall slightly in some local markets following the distribution of MCH food.

D. MEDICAL SYSTEMS

Medical coverage varies across the three study centres: in Fedis, one MOH health station serves 53 peasant associations and the counterpart does not have a clinic; in Fessa only the counterpart operates a small clinic (with only two beds) to serve 11 peasant associations in the area; and in the town of Meki where the MCH Centre is located, there is both a counterpart clinic and a Red Cross clinic serving a combined urban and rural population of 71,200 people.

The Ministry of Health and counterpart health facilities provide daily EPI, and twice weekly MCH and ante-natal services. But only Meki health station provides three times a week ante-

natal and post-natal services. Delivery service is provided by all MOH health institutions, but not at the counterpart health clinics. The Fedis area was experiencing a severe malaria epidemic at the time of this study.

Two of the MCH centres operated by the Hararge Catholic Secretariat (HCS) have begun to organize training of community volunteers to carry out health education activities. Fessa and Meki have plans to initiate health activities within the communities. Traditional medical practitioners are well established and accepted by all communities and those interviewed have expressed willingness to be trained and cooperate with the MCH centres and the conventional health systems (see health systems diagram: Figure 3). However, MCH personnel may not be willing to work directly with traditional practitioners as they lack respect for traditional practices and tend to impose the biomedical model.

E. COMPARISON OF FOOD INSECURITY AND HEALTH FACILITIES

Comparatively, the Fedis area exhibits the highest degree of food insecurity, largely due to the combination of drought and political conflict over the past three years. Both Fedis and Meki experience seasonal periods of food insecurity corresponding to harvest periods, while in Fessa there is food insecurity year round as the inadequate supply of *ensete* does not vary seasonally. Medical care available is very inadequate in all three study areas. However, comparatively speaking, Meki has better care available within both the MOH clinic and the counterpart clinic.

IV. INSTITUTIONAL SELF-ASSESSMENT OF PRIORITY MCH PROGRAMME ISSUES

A. MCH PROGRAMME DESCRIPTION AND EVOLUTION

CRS/Ethiopia began its traditional Food Nutrition Programme in 1976 in the northern regions and in Addis Ababa. In 1987, based on an assessment the programme was reoriented to a maternal and child health (MCH) service emphasizing health promotive/disease prevention components and income generation to improve both health conditions and economic status of the participants. Following, in 1988 decentralization was introduced and counterparts assumed the responsibility of managing the centres. Currently, there are 18 centres in six regions under four counterparts providing service to 72,000 poor mothers and under 4 years children. There is a marked variation in the capacity of the counterparts to carry out development work, as some of them have professional staff with technical expertise in health, agriculture, etc. and others do not. There are also different approaches to community involvement with some employing a DELTA approach and others imposing their own ideas on the community. Three of them are making various efforts to initiate community-based health care activities with varying degrees of participation of the concerned communities. Though there are adequate staff in the centres, there are differences in competence, and in practically all centres the supervision offered is inadequate.

Figure 3

**HEALTH SUB-SYSTEM ANALYSIS
BY GEOGRAPHIC LEVEL**

	HEALTH FACILITY					
Sub-system	HCS		ADVENTIST		MEKI	
	Fedis	Jellobelina	Fessa	Zegbaboto	Meki	Zeway
AWRAJA (Region)	Health Station (MOH)	Health Centre (MOH)	--	Hospital (Church)	--	Health Centre (MOH)
WOREDA (District)	--	--	--	--	Health Station (MOH)	--
MCH Centre	--	--	Health Station (Mission)	--	Clinic (Mission)	Clinic (Mission)
Community	CBHC in process CHA/TBA* -Traditional midwife -Bone setter -Uvula cutter -Circumcisor -Herbalist	CBHC to start in 1993 -Traditional midwife -Bone setter -Uvula cutter -Circumcisor -Herbalist	Plan to start CBHC CHA/TBA* -Traditional midwife -Bone setter -Circumcisor	--	Plan to start CBHC CHA/TBA* -Traditional midwife -Herbalist -Circumcisor	--

* = Trained by MOH and church

B. ISSUES IDENTIFIED BY THE KEY LEVELS IN THE SUB-SYSTEMS

1. USAID/Addis Ababa-

- 1- MCH as improved targeting tool for food aid
- 2- Nutritional impact of MCH
- 3- Household food insecurity alleviation
- 4- Integration with national MCH programme
- 5- Component of USAID Mission-funded HPN strategy.

2. CRS/E Headquarters (prioritization); (see box for original list)
 - 1- Overall programme strengths and weaknesses
 - 2- Integration of centre-based MCH with community-based health and nutrition
 - 3- Growth Monitoring quality and accuracy
 - 4- Increasing food security with/without food distribution.

3. Counterparts
 - 1- Self-sufficiency/reliance/development; create awareness; break chain of relief, dependency, reduce the dole and hand-out
 - 2- Role of CRS and AID: Directives and imposition from CRS and AID; Frequency, quality of CRS supervision; CRS bureaucracy and required paperwork
 - 3- Training and education of MCH and other staff working out in the community
 - 4- Woman's promotion, community-based MCH and income-generating activities.

CRS/ET Strengthening Grant Maternal Child Health Programme Evaluation
Key Issues in MCH Centre Systems Analysis as Identified by the CRS/Addis Staff -
November 1992

1. **Growth Monitoring: Is the system accurate? Is data used by centre staff and/or by CRS? How do mothers perceive monthly weighing?**
 2. **Participation of Mothers in MCH Programme: Needs to increase both in the short term (within current MCH centre programmes); and within long-term plans for MCH within more community-based health.**
 3. **Impact of Food AID within MCH Programme: Is there impact on child nutritional status?**
 4. **Assess degree of household food security in the area.**
 5. **Does the present MCH Programme encourage mothers to maintain their children at below 80% weight for age in order to continue receiving monthly food rations for the family? Are there other interventions for decreasing child malnutrition?**
 6. **Quality of present health education: What is attitude of mothers toward present Health Education efforts? How can we improve this component?**
 7. **Programme only addresses a few of the components of Maternal Child Health. Options for making more comprehensive/increasing quality and staff needed at both CRS and counterpart levels.**
 8. **Options for integrating MCH with community-based health and nutrition programme. Are there present community-based health efforts and if so, what are they?**
 9. **Overall assessment of current MCH Programme's strengths as well as weaknesses.**
 10. **How do MCH Centre staff perceive current programme and how interested/motivated are they? How to improve?**
 11. **Other activities of the MCH center: How are they handled? Do mothers participate?**
 12. **Income-generating activities: Are there present efforts? Future plans?**
 13. **What are options for increasing food security within a sustainable development programme with or without food distribution at the MCH Centre?**
 14. **Explore the feasibility of purchasing local food as opposed to imported food assistance.**
-

C. MCH STAFF

In order to access the perceptions of MCH centre staff three separate focus groups were held, one in each study area (see guidelines, Annex IV). In Hararge, staff from both Fedis and Jellobelina MCH centres participated. In Gurage, staff from Fessa and Zegbaboto MCH centres participated. In Southern Shewa, staff from Meki and Zeway MCH centres participated. Only external consultants were present to facilitate and record discussion and to minimize bias to encourage participants to express their ideas. The focus group participants consisted of the following MCH staff members: team leader, weigher, plotter, registrar and food distributors.

Most of the MCH staff members had a 12th grade education. A short orientation session had been conducted for most of them by CRS on programme implementation. Staff members confessed that they don't have adequate training to work in community based programmes.

The MCH centre staff in all focus group sites mentioned that the food aid had helped to improve the growth of children and to sustain life. In Jellobelina they said that there were 15 groups of malnourished children and this number had been reduced to 5 groups after programme implementation. The other strength noted by staff, was the nutrition and health education given. They stated that 75% of the mothers had made practical the advice given by centre staff as evidenced by home visiting of centre staff.

The staff noted the absence of programme evaluation as a major weakness. They said that there was lack of emphasis on solving the major problems of the community such as shortage of water. Other weaknesses identified are lack of funds for income generating activities, lack of identification of beneficiary needs, and lack of incentive and moral support for MCH staff. In Jellobelina, there is a transportation problem, as the staff cannot stay at the centre due to security risks.

Fessa and Zegbaboto staff members expressed their frustrations saying that they are making home visits every day walking about 10 kms without being paid per diem. They also have worries regarding the security of their jobs. In spite of their problems and frustrations, staff are committed to serving the community. They said that American people are providing aid for people whom they have never seen, and therefore they cannot ignore their people and are willing to serve the community even though they are poorly paid.

During the focus group discussion some administrative problems were raised. The staff in Meki and Zeway said that they do not even have identification cards. There is no clear line of authority and the distinct role of CRS and the counterparts are not clear. Centre staff feel over worked and poorly paid.

Some of the staff members have taken DELTA training. Some have also been given training on store management and finance by CRS and participated in nutrition education workshops organized by CRS. Staff expressed their need for further training on topics such as health education, development, nutrition, management and finance.

The staff make a number of recommendations aims at increasing programme effectiveness. They said that one can not be a beneficiary all the time and something more sustainable should be done. The main recommendations include:

- establishment of irrigation
- introduction of a revolving fund for women
- need to include men in health education and child care
- establish child day care centres
- training of women on handicrafts
- introduction of income generating activities at household level
- use of mother's contributions for sustainable development
- Meki: strengthening mother's promotion project
- water source development
- provision of clear job descriptions of centre staff
- incentives for centre staff
- provision of transportation facilities for centre staff.

In Meki, the staff feel that there is no integration between the MCH centre and the clinic activities. In addition, the medical care provided to mothers and children is inadequate.

Staff attitudes towards mothers were hard to obtain given the short time period of one focus groups session as well as staff lack of trust with researchers. Generally the staff conveyed a positive attitude towards mothers during the focus group sessions.

D. COMMUNITY

In Fessa and Zegbaboto women are often organized into working groups for household maintenance and income generation. The main activities are carpet making and kocho processing. There is not extensive farming and many of the males migrate to urban areas such as Addis Ababa to engage in trading activities, leaving their families behind. Many young male children also migrate to urban areas. Women are commonly responsible for income generation for household maintenance and for heading the household. Grinding mills are not available in the villages and women often walk 10-15 km to reach milling facilities. The work load of women is very heavy and with child care often unavailable, children are often left unattended at home.

In Fedis women come to the centre from 7 different villages ranging in distance from 1-7 kms. Fedis is in the mid-land and known for its previously high grain and livestock productivity, it has suffered drought and political instability in the past few years and the community does not have any food reserves at present. The food from the centre is shared by the entire family and only lasts 2-3 days. Firewood is collected to provide a little additional income. Environmental degradation is a serious problem in the area.

V. MCH PROGRAMME BENEFICIARIES: TARGETING, SELECTION AND CONTINUITY

A. SELECTION CRITERIA

The apparent lack of consensus or conscious discussion over basic objectives of the MCH programme apparently prevented a more technically appropriate definition of selection criteria. The rehabilitative re-feeding approach was more evident in the criteria than the preventive MCH approach.

1. Age at entry (Figure 4)- A low percentage of infants enter the programme in the first 6 months of life; the highest percentage enter between 7-12 months; in Meki and Fessa, over one-third of the new children are already over one year of age when first admitted, and thus probably already stunted and chronically undernourished); only a few new beneficiaries are added each month or quarter to each group (usually composed of 100 children and 100 mothers); there are often long waiting lists of mothers with children under one; overall, infants as a percentage of total child (ages 0-48 months) beneficiaries ranges from only 7% in Meki to 18% in Fedis (Figure 5).

2. Nutritional status at entry (Figure 6)- MCH centres vary in their nutritional status criteria for new entrants from a focus on the severely malnourished (under 60% of reference), to all those who are 80% and under. Fessa, which is now stressing the detection of malnourished infants, has the highest percent (27%) of their new entrants under 60%, compared to the lower teens in Zegbaboto and Fedis, and below 5% in the regular Meki Programme (where the severely malnourished enter the Weekly programme).

3. Poverty screening- Some mothers are still referred by the Peasant Association (PA), while others are merely observed at the MCH centre gate; some are now being home-visited for observation and interview first. Staff admit that it is a difficult, stressful and time-consuming process to screen and process the new families.

4. Graduation- Varies from using the age criteria (over 48 months regardless of nutritional status), to using good growth (a child who for 1-3 months remains at 80% or above). Also, lack of attendance three straight times usually means graduation.

B. PARTICIPATION

1. Children can be on the programme even over three years in duration.
2. Most children come every month, but many times their mother is absent for reasons of illness, other priorities, food sharing, etc.
3. Drop-out rate is very low, mostly due to out-migration or death.

Figure 4

Age of Entry, New Beneficiaries Observed Groups, 4 pilot MCH centers

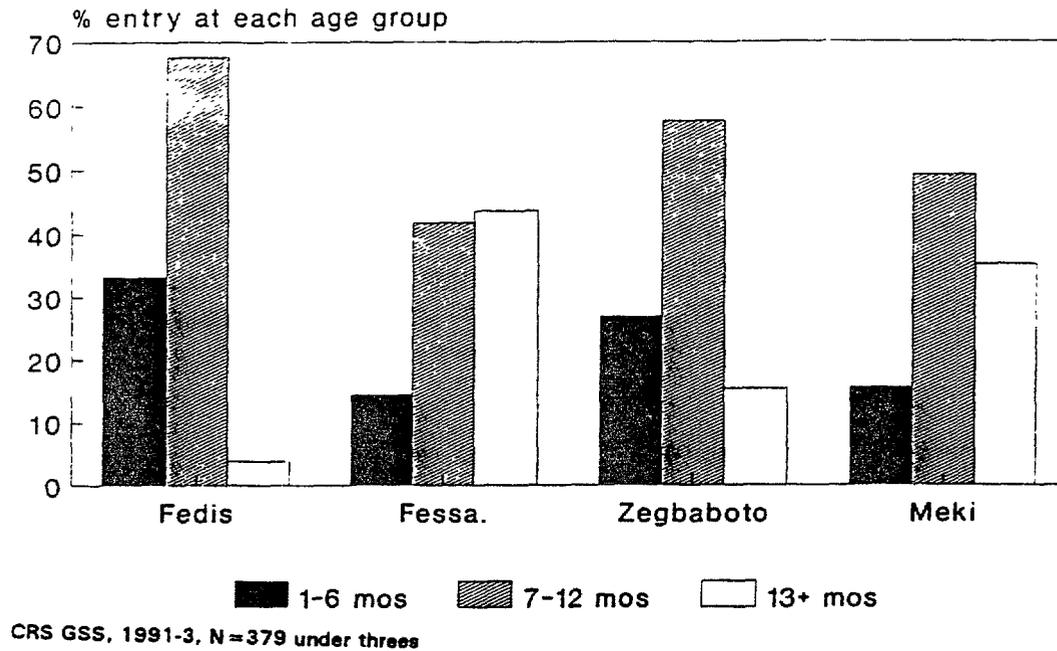


Figure 5

Infants as % of Total Beneficiaries 4 Pilot MCH Centers, 1991-2

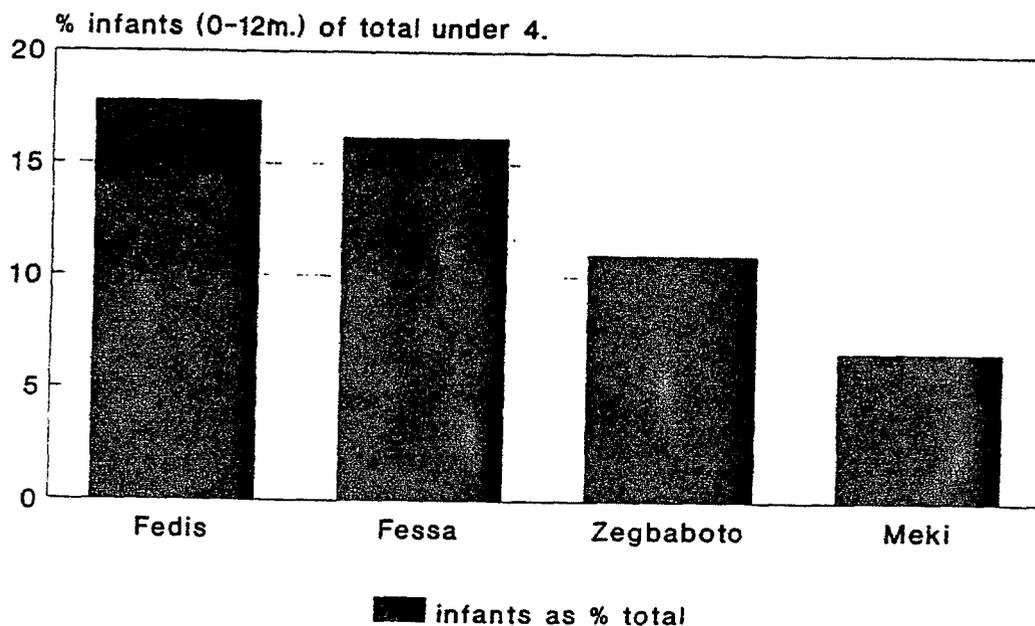
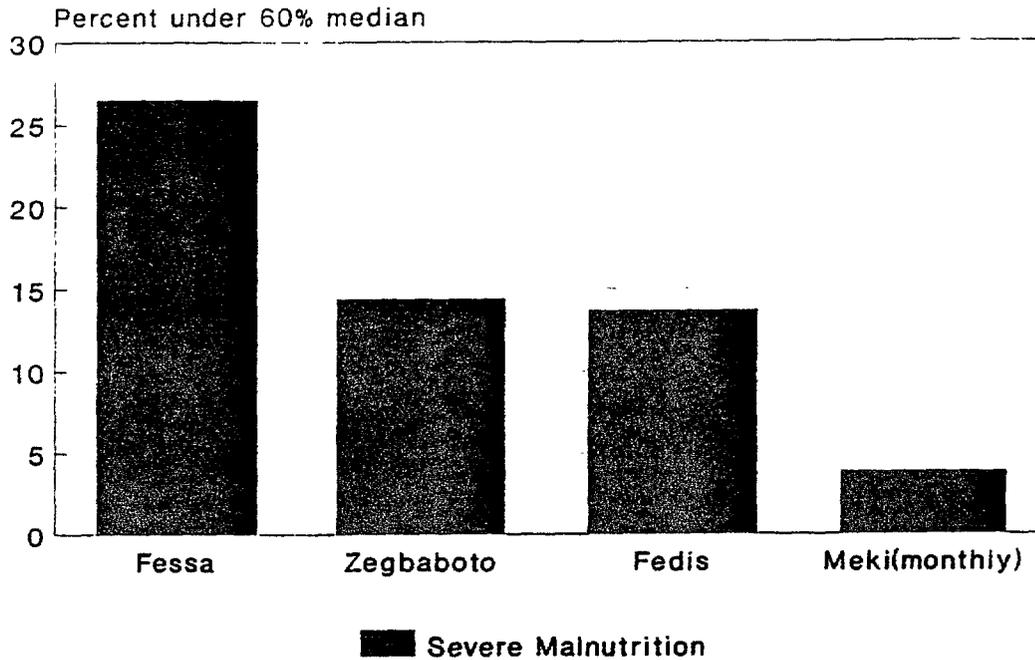


Figure 6

TARGETING OF THE SEVERELY MALNOURISHED New entrants'91-2, Observed MCH Groups



CRS GSS system, N=228 under fours

C. CHARACTERISTICS

Women and Families: A mini-survey of mothers and children participants within four MCH centres (Fedis, Fessa, Zegbaboto, and Meki) was conducted (see Annex IV for instrument). The team drew a sub-sample of the beneficiaries participating in the monthly programme and present on the survey day (which can average 60-100). In order to get the most vulnerable groups, a pre-selection was made to include only those mothers of children under two years of age in the survey. In places where the numbers of mothers of children under two present on the survey day were inadequate, mothers of children under three years of age were included. In Meki, in addition to the monthly programme women, a separate measurement was done on mothers participating in the weekly rehabilitation programme for malnourished children under 70% weight for age.

Socio-economic Background: Among women who came for MCH services 133 of them were interviewed and socioeconomic data such as language, religion, education, marital status, husband's occupation and mother's earning was collected. A summary by village is shown in Table 2. According to the survey findings, 97% of the mothers in Fedis are Muslim and speak Oromogna; 22% of mothers in Fessa and 27% of mothers in Zegbaboto are Muslim while the remainder are Christian. All mothers interviewed here speak Guraginya. The cultural composition of mothers in Meki is predominantly Oromo although others groups such as Gurage and Amhara are present.

Ninety-two percent of the women surveyed were illiterate. Although the large majority of the women were married, it was found that 10% of women in Meki, 5% in Fedis and 4% in Fessa and Zegbaboto are single, mainly as a result of a husband's death and in a few cases due to divorce. 25% of the women in Meki, 15% of women in Zegbaboto, and 11% in Fessa are involved in polygamous marriage. 92% of the survey women's husbands are farmers. Only 18% of the mothers in Fedis and 40% of the mothers in Meki and Fessa earn any income while 77% of those in Zegbaboto are involved in earning income for the family (e.g's., handicrafts, agricultural labour, petty trading).

Traditional Women's Groups: 27% of the sample mothers are members of traditional women's groups while an equal number are not members of any women's group. (In Fedis, this information was not collected.) In Zegbaboto, 65% of the mothers are members of traditional women's groups. These groups work together during kocho preparation, and carpet making/weaving for income generation. During kocho preparation time, the group works on separate occasions for each group member and have lunch together. They share 1/5 of the processed kocho for themselves, leaving the majority 4/5 for the owner. By contrast, the traditional women groups in Meki are religious gatherings called "Mariam" celebrated in honor of Mary (mother of Jesus Christ) and "Gabriel Edir" - a social self-help group in which the women make small contributions and use the money to manage burial ceremonies and other social needs.

Nutritional Status of Mothers: The nutritional status of the 132 mothers surveyed in the four MCH centres was assessed by the study team using the indicators of height, mid-upper arm circumference (MUAC) and lower eye-lid pallor (Figure 7). The age of the women surveyed ranged from 15 to 50 years with a mean age of around 29 yrs. The findings revealed a very high level of maternal malnutrition:

Maternal stunting: 45% of the mothers were moderately or severely stunted (under 152 cms.), which evidence a result of childhood deprivation and stunting. This ranged from 55% of the women in Fedis, 44% in Fessa, 35% in Zegbaboto and 32% in Meki (Figure 8).

Table 2

**CHARACTERISTICS OF UNDERNOURISHED MOTHERS
FOUR MCH CENTRES, NOV. 1992**

MOTHERS CHARACTERISTICS		UNDERNOURISHED MUAC* = ≤ 22.0 CM	TOTAL (N)
Age	≤ 19 years	25.0	12
	20 -35 years	21.4	98
	36 and above	36.4	22
Education	None	25.0	120
	Some	18.2	11
Religion	Christian	20.3	64
	Moslem	29.0	69
Number Under 5	0-1	24.5	50
	2	25.8	66
	3-4	23.5	17
Employment	Yes	35.3	51
	No	18.3	82
Womens Group Participation	Yes	33.3	39
	No	20.0	35
Total MUAC ≤ 22 cm		24.8	33

* Mid Upper Arm Circumference

Source: Mini-survey

Maternal undernutrition: Over half (53%) of mothers interviewed in the mini-survey at the MCH centres were moderately and severely undernourished as measured by their thin arm circumference (23.5cm and under); and around 25% were severely malnourished (22.0 cms and under) (See Figure 9). The percentage of these women (with very thin upper arms) ranges from 39% at Zegbaboto and 32% at Fessa in Gurage, to 22% in Fedis and 9% in Meki. However, in Meki, the most malnourished children and their mothers were in the weekly programme. Here, an amazing 48% of the mothers in the weekly Meki programme were severely undernourished. A more in-depth look at these severely undernourished mothers (MUAC 22.0 cm and under) is shown in Table 2. The characteristics most associated with the higher levels of malnutrition are: older mothers (over 35 yrs.), employed status, traditional women's group participation and moslem religion.

Figure 7
Malnutrition of Beneficiary Mothers
 4 Pilot MCH Centers, Nov. 1992

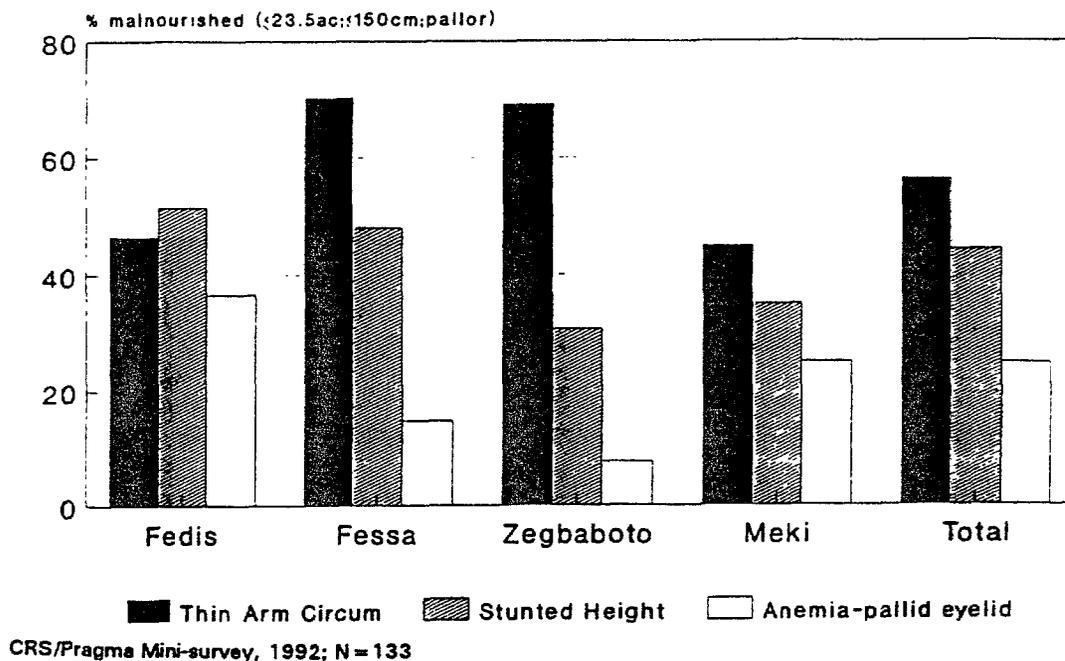
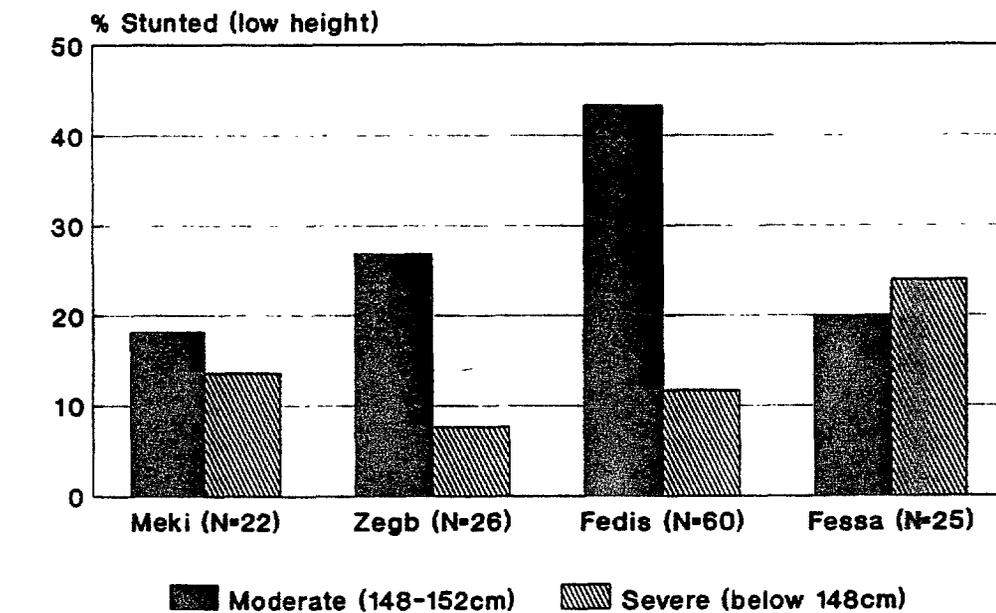


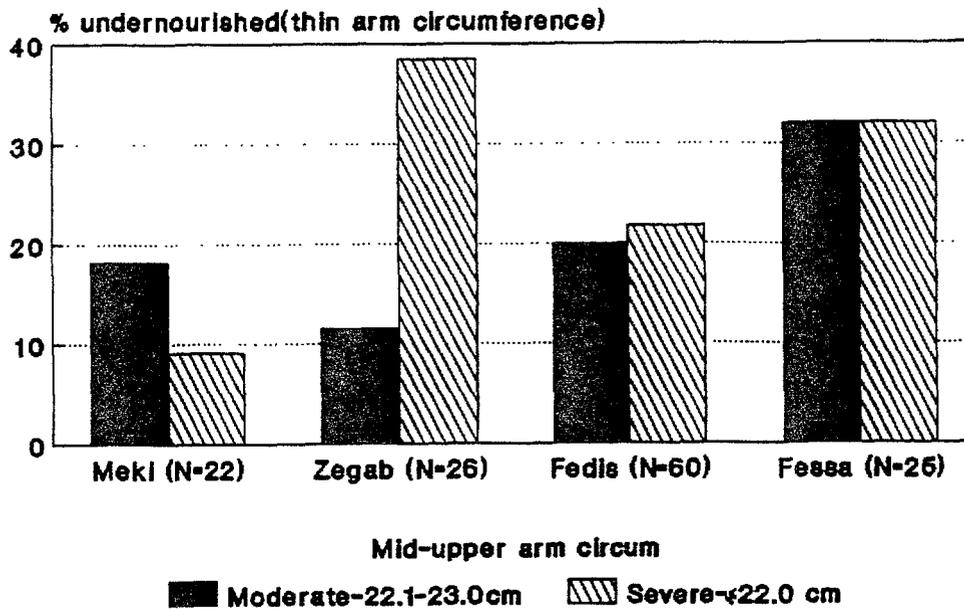
Figure 8
STUNTING LEVELS OF MOTHERS BY GROUP
 4 Pilot MCH Centers, Nov. 1992



CRS/Pragma Minisurvey, 1992; N=133

Figure 9

UNDERNUTRITION OF MOTHERS BY GROUP 4 Pilot MCH Centres, Nov. 1992



CRS/Pragms Miniurvey, 1992, N-133

Pallor of the eyes was examined for indication of the presence of anaemia. The findings were classified as red pink, pink, and pale. Women classified with pale eyes were determined to be anaemic. Some inter-observer variation likely affected the findings. 37% of the women in Fedis, 25% in Meki and 15% in Fessa were determined to be anaemic.

Child Bearing: Of the women surveyed, 10% of those in Meki, 7% in Fessa and 7% in Fedis had given birth to greater or equal to 8 children. Regarding percentage of children under five years of age, 61.7% of women surveyed have 2 or more children under five years, with the highest number in Zegbaboto. 7% of the women reported that they were pregnant and thus had ceased breast feeding.

Two percent of the mothers surveyed reported that they have a child younger than the child participating in the MCH programme at home. They said that they breast feed the younger child and that they had stopped breast feeding the programme child.

The general fertility rate was calculated (See Annex III). From the rate it is possible to compare across the different centres. Meki has the highest fertility rate of 4.9 (per 1,000 women) and Zegbaboto has the lowest with 2.59.

Mother's Participation in the MCH Programme: The average distance the women walk to come to the MCH centre is 4.5 km, though there is much variation among the four centres surveyed. 29.3% of the women surveyed waited for three months or more to gain admittance to the programme. 28.6% of the women have participated in the programme for more than two years.

Mother's Perceptions of Child Growth: Health nutrition education is a component of the programme in all four MCH centres. The study team was interested in learning whether mothers understand the current GSS growth card in terms of the two contrasting colors denoting above and below 80% percent weight for age as well as the meaning of the graphed growth pattern. Two questions were included on the mini-survey to assess understanding. According to the findings, 77% of the mothers surveyed do understand the distinction between the two different colors on their child's growth chart. Comparing across the four centres, the survey indicates that a higher percentage of mothers in Fedis (88%), and Meki (75%) understand the distinction between growth chart colors than those in Fessa (63%) and Zegbaboto (66%) (See Figure 9, dark bars).

The survey also asked mothers to express their opinions regarding whether the growth of their child was high, medium or low. 61% of those surveyed said their child's growth was good, 16.5% said it was medium, and 21% said it was poor. The investigators then assessed the actual growth pattern of the child and found that 77% of the mothers were correct in their opinion of their child's growth. Mothers in Fedis and Meki were much better informed (around 90% correct) than in Fessa and Zegbaboto (around 60% correct) (see Figure 10, light bars).

However, irrespective of the actual growth of their child, mothers may say that their child is growing well as to avoid making negative comments regarding the growth of their child. This behavior is part of the traditional beliefs regarding children's health and growth. Mothers describe improvements that a child has made in terms of weight gain and weight loss. The little weight gain that a child has made, may be considered evidence of positive growth, although a child's weight for age may indicate poor nutritional status. Also, it is important to note that in Fedis, even a little weight gain may be regarded as very positive by mothers there as the area has been through difficult times of drought and political instability.

A correlation analysis was done to see whether there is a relationship between mother's opinion of their child's growth and the actual nutritional status of the child. Coefficient of correlation "r" represents the degree of reliability of the mothers opinion about the growth of their child and the present nutritional status of the index child. "R" is always between 1 and -1 where value of "r" below 0 shows a negative relationship and greater than 0 shows a positive relationship. The relationship is strong when the value of "r" is close to one and weak when close to 0. Looking at the calculated "r" value (See Annex III), one can deduce that mothers

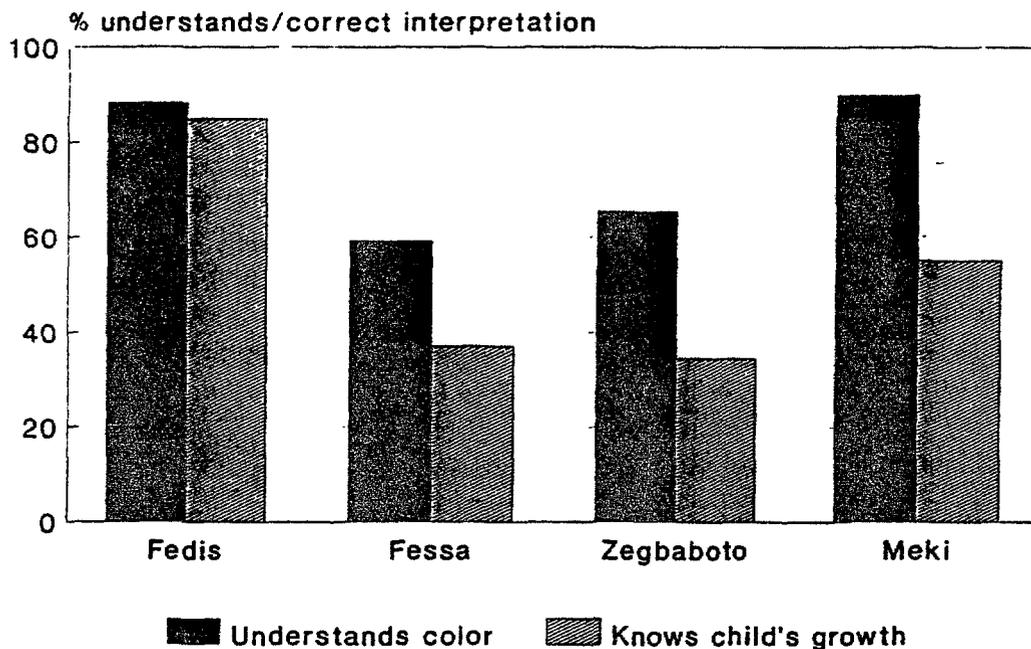
opinion about the growth of their children poorly describes the actual nutritional status of the children.

Maternal confidence was assessed at the conclusion of the survey and graded as high, medium and low based on the interviewer's observation of mother's interaction with her child and her response to the questions. Only 4.5% of mothers surveyed were judged to have low confidence. From the observation of the interviewer, 98% of the mother's surveyed were alert and responded well to questions.

Characteristics of Children: The nutritional status of the children surveyed was determined using information reported on each child's growth chart. The accuracy of the weighing, plotting and charting by MCH centre staff was observed closely at the 4 pilot centre and assessed to be satisfactory in all four. The mean age of the index child of mothers surveyed was found to be 19 months. For the month of November, 15.8% of the children surveyed were below 60% weight for age and 56% were below 70% weight for age. 31.6% of the sample children were not vaccinated at all and 33.8% had not completed vaccinations. The child mortality (survivorship) ratio was 21%, with the highest found in Fedis (see Figure 11).

Figure 10

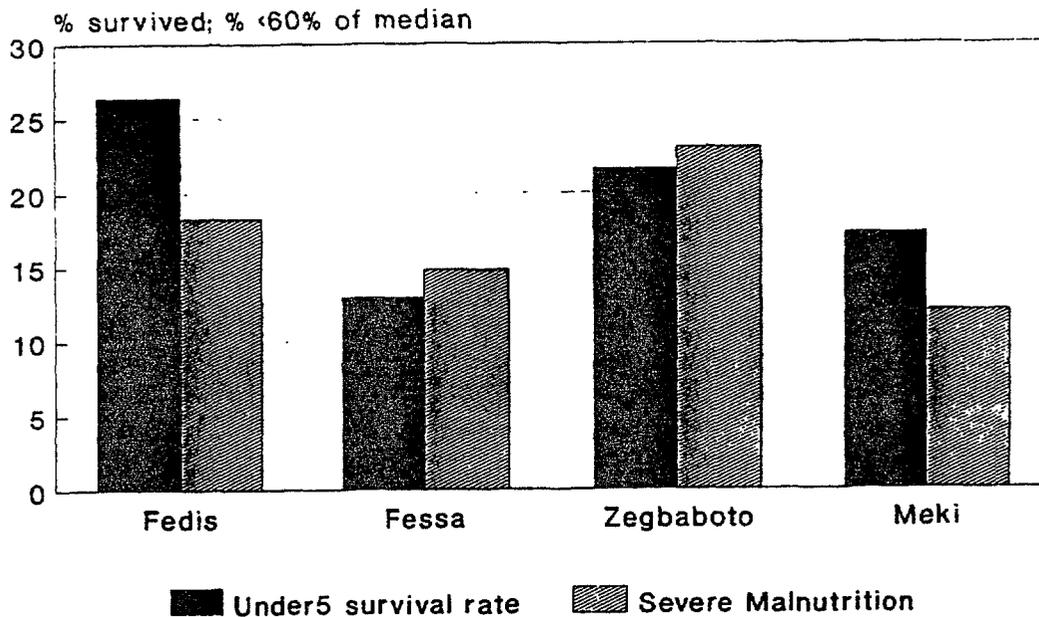
Mother's Understanding of Growth Chart 4 Pilot MCH Center, Nov. 1992



CRS/Pragma Minisurvey, N=133

Figure 11

Child Malnutrition and Mortality 4 Pilot MCH Centers, Nov. 1992



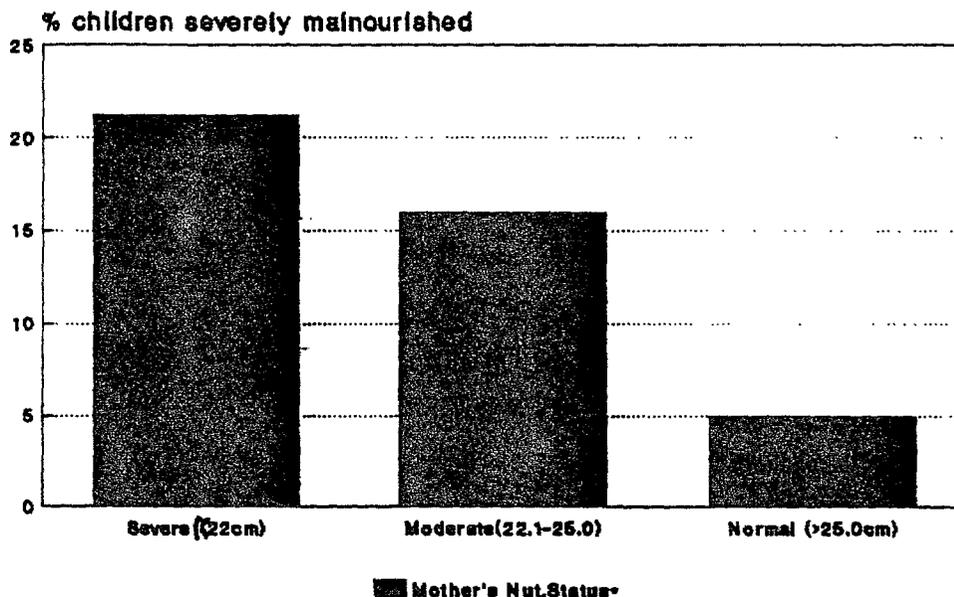
CRS/Pragma Minisurvey, N=133 children

Relationship between Mother's Nutritional Status and Characteristics and Her Child's Nutritional Status: There is a relationship between mother's nutritional status and that of her child's. For mothers in the monthly MCH programme who are moderately/severely malnourished, 21% of their children are severely malnourished, compared to only 5% of children of well-nourished mothers (Figure 12). In the weekly Meki programme, 38% of the malnourished mothers have severely malnourished children. On the other hand, 50% of the severely malnourished children in Meki have severely malnourished mothers.

A related analysis looks at the maternal characteristics of moderately and severely malnourished children (Table 3). The characteristic most related to severe malnutrition is having many children under five (3-4) in the family, followed by Moslem religion and older age (over 35). The difference in moderate and severe malnutrition between illiterate and literate mothers is also large: none of the literate mothers has a severely malnourished child, and there is almost twice the level of moderate malnutrition in illiterate mothers as literate ones (31 to 18%).

Figure 12

MOTHER'S NUTRITIONAL STATUS AND THEIR OWN CHILD'S STATUS, PILOT MCH CENTRES



CRS/Pragma Minisurvey, GSS data, Nov. 1992
• Mid-upper arm circumference; N=133

VI. PROGRAMME INTERVENTION QUALITY

The primary aim of the MCH programme is to improve the health and nutritional status of poor mothers and young children through growth monitoring, education/counseling, food supplementation and health care. But there is a marked difference among the counterparts both in their vision and capacity of implementing the MCH programme. Despite efforts made to reorient the programme there are deficiencies in targeting, entry criteria and in the use of available data. The collaborative study is intended to identify major issues and propose possible solutions to make the programme more effective.

A. GROWTH MONITORING/PROMOTION

1. The mechanics of weighing, plotting and charting were closely observed to be carried out very efficiently and of acceptable accuracy. Thus the data in the GSS and record book are an excellent source of nutritional monitoring and surveillance. The main technical problem is age calculation of the children who start the programme over one. Numerous problems were observed, where age mistakes resulted in mis-diagnosis.

Table 3

SOCIO-DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS OF MOTHERS AND
OF MALNOURISHED CHILDREN

Mothers Characteristics	Severe (Child) Malnutrition W/A* = \leq 60%	Moderate (Child) Malnutrition W/A = 60 to 69%	Total Mothers (N)
<u>Age</u>			
\leq 19 years	8.3	33.3	12
20 -35 years	16.5	30.9	97
36 and above	18.2	22.7	22
<u>Education</u>			
None	17.6	30.6	119
Some	0.0	18.2	11
<u>Religion</u>			
Christian	12.5	25.0	64
Moslem	19.1	35.3	68
<u>Number Under Five</u>			
0 - 1	8.2	22.0	50
2	19.7	36.4	66
3 - 4	25.0	38.5	16
<u>Employment</u>			
Yes	17.6	31.4	51
No	14.8	29.6	81
<u>Womens Group Participation**</u>			
Yes	17.9	25.6	39
No	8.6	31.4	35
Total W/A	15.9	30.3	133

*W/A = Weight for Age

** Not asked in Fedis

Source: CRS/Pragma Mini-survey, November, 1992; N = 133 mothers

2. Health screening, feedback on child's progress and communication and eye contact was the weakest part of GMP. Vaccination records were rarely checked. Only in one of the 4 centres observed did the weigher give feedback to the mother, and this only if the child had lost weight. But no subsequent counseling was done at this one centre for the child. The child was often not even observed because after weighing, s/he was put back on the back out of view to the person doing the consultation. Some of the individual counseling, if it was done, was rote, perfunctory and inappropriate to the individual circumstances of this particular child. Questioning in one MCH centre was rather harsh, accusatory and demeaning, even though the counselor had been exposed to DELTA.

3. Health education topic selection was appropriate, and materials and posters were available in most places. However the interaction and response of the mothers varied, being mostly passive. Most educators were not observed using the DELTA and psycho-social methods. Health education mainly stressed the importance of hygiene. However, the mechanisms by which hygiene should be maintained are underemphasized.

B. FOOD SUPPLEMENTATION

1. The MCH Programme is commonly referred to as the "feeding" programme. Thus it is perceived more as curative or rehabilitative, as a "hand-out" or relief to the needy. In this way it is important in times of food shortage and to the very poor. The saying "something is better than nothing" aptly describes the attitude of many MCH workers. It is said that the programme has helped many to be alive, but that alone is not sufficient.

2. The food (CSB, oil and wheat) ration was observed to be distributed quite efficiently. There is a team of the registrar, distributors and storekeepers collecting the contribution and measuring the ration size. Sometimes there are shortages of commodities (oil was not available in Fedis), but the shortage does not appear to last more than a month or so.

3. MCH programme personnel and workers are not sure whether the food supplementation in itself helps the children that much, but are keen on having an evaluation to find out. The ration is, of course, distributed by the mother to the entire family, and she often gets little of it when there is a shortage. Mothers say that the ration might last up to two weeks for one child, but with an average of three children, for example, it might last only three days. MCH workers have observed that the ration is not always properly prepared. Home visits are made to assist in educating on this aspect, but in most villages (except around Fessa) the home visits are infrequent.

4. The food ration is useful as an incentive for regular programme participation in health and nutrition education, and the mothers have learned many basic concepts. In and of itself, this is a child development intervention. However, most MCH programme and staff personnel feel that the food component should be temporary, and that they should be helping the mothers to become more independent, and graduate them into more developmental (income-generating) projects.

C. QUALITY OF INTERPERSONAL COMMUNICATION (STAFF-MOTHER)

The manner in which MCH staff treat mothers was observed in all four study centres. Generally a lack of respect was noted for the knowledge and beliefs mothers possess. Often staff spoke harshly to mothers as if misconduct on their part was responsible for their child's poor growth (EG: "What happened to the child? His weight has declined!"). The education and re-orientation of MCH staff to increase respect is essential for the successful integration of MCH within the communities. It was difficult to obtain accurate information on mother's perceptions of the MCH programme due to both time constraints and lack of trust.

There is usually a group education session at the beginning of each growth monitoring session. At most of the sessions observed, the mothers were rather passive. At one session, a flip chart on the theme of malaria was presented. Each chart began with a printed, general question that could raise the interest of the mothers. This important group dynamic technique, while written out, was not utilized. Also, the pictures and messages on each chart are small, and the educator was standing rather far removed from the group. At the end of the 20-minute session, the educator asked if there were any questions, and no one responded.

VII. INTEGRATION OF MCH INTO THE COMMUNITY

A. INTEGRATION INTO COUNTERPART DEVELOPMENT PROGRAMMES

All three counterparts were trying to extend MCH into the community with varying approaches. In Fessa and Meki, the principal community-based initiative is to have MCH staff making home visits, while Fedis is integrating MCH into their other development programmes. Meki has separate programmes that lack coordination (MCH, clinic, community animation). The Meki DELTA animation programme employs four trained animators who are using participatory approaches to help communities prioritize their needs and mobilize agricultural production activities. Unfortunately, the MCH programme is not currently coordinating with the DELTA development programme in Meki and the MCH programme does not apply a participatory DELTA approach.

B. COMMUNITY-BASED NUTRITION ACTIVITIES

Fedis has selected 7 community nutrition volunteers in 2 communities; Fessa is doing daily home visits for selection, observation and education; within the weekly programme only, Meki is doing some home visiting as well as identifying mother leaders who will be involved in various educational, small animal, gardening and income-generating activities. Much can be learned from discussions with people like the community nutrition volunteers. In a group meeting with them, for example, the need for including husbands in child care became evident since they are the ones that spend more time at home than the mothers. Mothers spend much of their time in collecting firewood and carrying it to town, while the men prepare charcoal and

sell it in the market. Mothers say they only have enough time to feed their children twice a day.

C. INTEGRATION WITH TRADITIONAL COMMUNITY GROUPS

All three counterparts are organizing their own groups as opposed to working with traditional groups. Several traditional groups that could collaborate in community-based nutrition programmes were identified in each of the communities visited. However, there are different approaches to working with communities, from the participatory DELTA approach to aggressively working to wipe out traditional beliefs and practices by imposing biomedical and/or religious agendas. There is concern over the imposition of missionary, modern medical values on communities and for a lack of cultural sensitivity and respect. Impartial application of participatory, responsive and problem-posing DELTA principles were rarely observed.

VIII. CHANGES IN NUTRITIONAL STATUS AND GROWTH

A. LEVELS OF NUTRITIONAL STATUS (1991-1992)

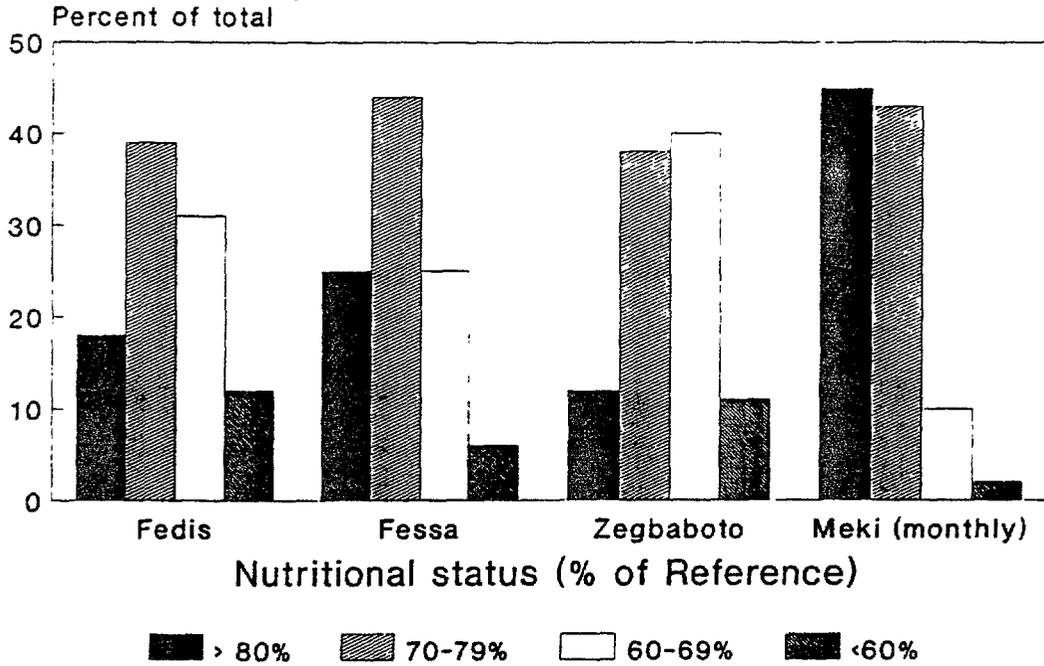
A summary of 77,000 weighings of 8000 participant children and their nutritional status levels during a year period (mid-1991 to mid-1992) in the four pilot study centre areas is presented in Figures 13 and 14. Percentage of underweight children (under 80% of the reference) range from slightly over one half in Meki, three-fourths in Fessa, 82% in Fedis and nearly 90% in Zegbaboto. The percent severely malnourished (under 60%) range between 2% and 12%. The centre with 2% has a weekly recuperation centre attached to it where over 90% are quite malnourished (65% and under). In Figure 14 we see that while the percent severely undernourished (lighter bar) decreases consistently with older age groups, the percent with adequate weight for age increases with age group (dark bar).

B. MONTHLY TRENDS IN LEVELS OF MALNUTRITION (1991-1992)

Comparisons over the four pilot sites show a marked increase in the percent of malnutrition in the under-ones in one centre: Fessa (Figure 15). The level increased from around 7% in June 1991 to nearly 23% in mid-1992. The Assessment identified this trend from the available data in Addis Ababa before entering the field data collection stage. Subsequent on-site analysis revealed that overall malnutrition did not increase, but that there was better selection of the severely malnourished based on home visits during this period. Trends in Fedis and Meki did not apparently show increase in levels of malnutrition although these areas did experience drought and food shortage. Selection criteria has affected these figures. An increase in severe malnutrition was observed in the weekly nutrition rehabilitation programme in Meki between May and Sept., 1992, where the level of severely malnourished rose from 12% to 28%. The programme was shut down in between, and the start up may have also contributed to this rapid rise.

Figure 13

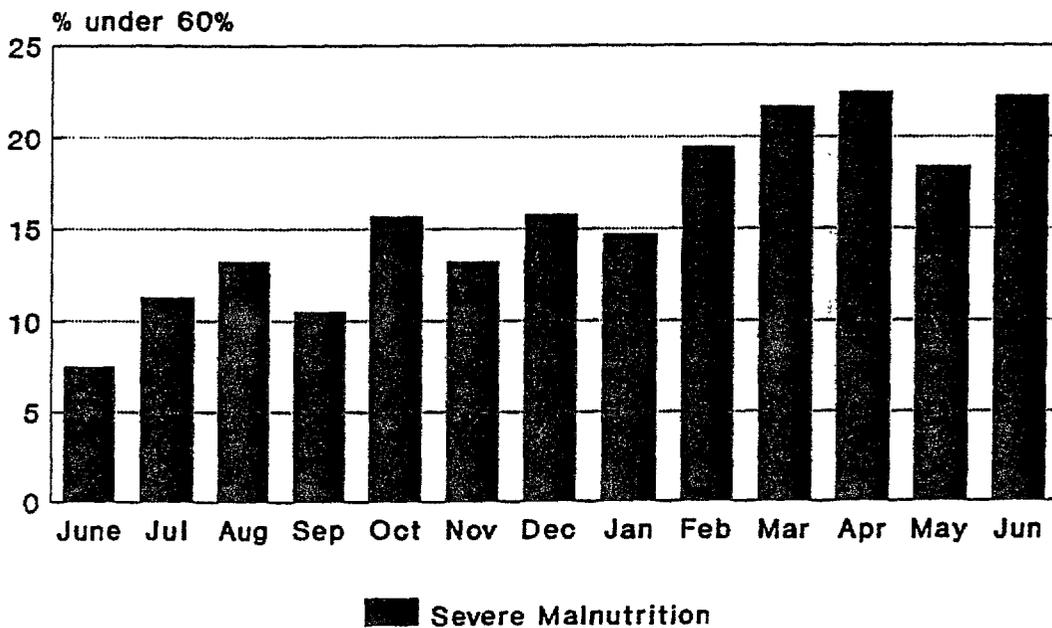
NUTRITIONAL STATUS OF ALL UNDER FOURS 4 PILOT MCH CENTERS, 1991-92



CRS GSS consolidated tables, 1991-2

Figure 14

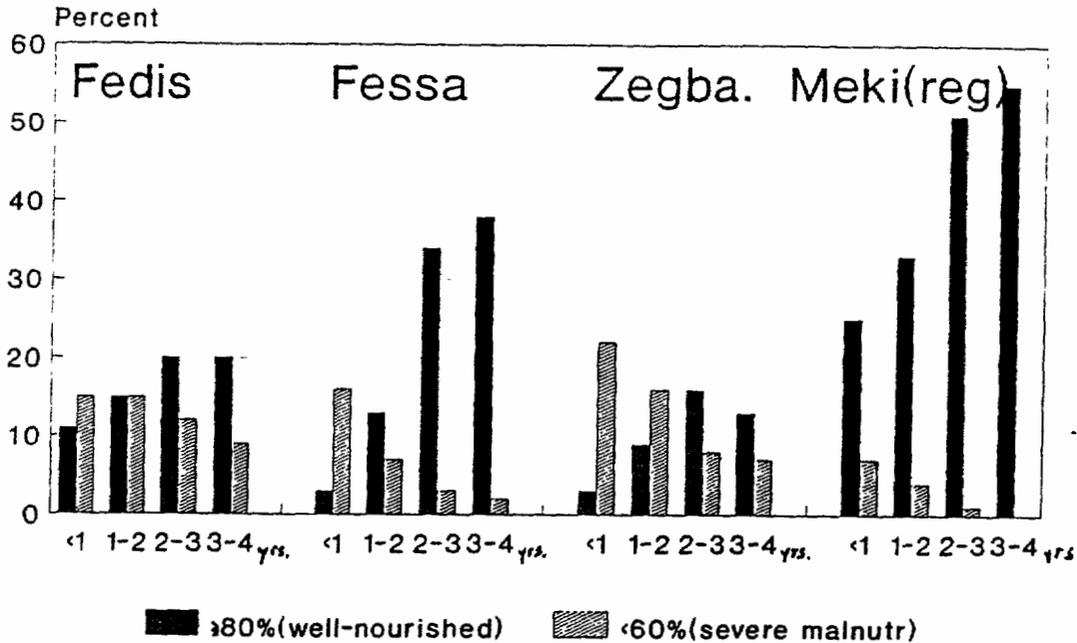
Trends in Severe Malnutrition Fessa MCH center, Under ones, June 1991-2



CRS growth surveillance data

Figure 15

NUTRITION STATUS OF ALL UNDER FOURS By Age, 4 Pilot MCH Centers, 1991-92



CRS GSS Consolidated Reports, 1991-92 (N=9000)

C. GROWTH PATTERNS

1. Individual children in regular programme: This was taken directly from the record book. It was done on three sets of groups from each study MCH Centre area: a) the one group observed that day at the study centre; b) another group identified by the staff at the MCH study centres as the most "successful" one, and c) on one group identified as the most "successful" at 12 MCH centres, including study and non-study centres.

A child's nutritional status at entry was followed over time, starting at weight at entry or 12 months earlier and compared with present nutritional status, their changes in nutritional status were divided into four categories:

- 1) positive (always 80% and above);
- 2) negative (always 70% or below or starting above 70% and declining);
- 3) recuperative (starting at 70% or below and improving at least 10 percentage points (i.e., 2 categories higher);
- 4) borderline (staying in the 70-75% range throughout).

Figures 16 and 17 and Tables 4 and 5 summarize these trends for selected groups in the four observed MCH centres. The percent of children in negative patterns ranges from only 15% in the study group in Meki to nearly 40% in the study group in Zegbaboto (Figure 16), while combined positive/recuperative trends reach around 30% in Fessa and Meki.

Table 4 presents data on positive and recuperative patterns tabulated by MCH staff themselves from 12 MCH centre areas. Individual children are classified as to whether their nutritional status rose in the 12-month period in the programme: either a positive increase of 5% weight-for age when starting at/above 70%, or recuperative, that is, starting below 70% and increasing by at least 10%. The range with positive change is 23% (Dakuna) to 48% (Wonji). The range with recuperative change is from 17 (Fedis A) to 62% (Harer town). These levels can represent an initial baseline. Each group should aim for a target of at least 50 or 60% positive or recuperative change.

Figure 17 presents data on positive/recuperative patterns of individual children in the four observed pilot groups by age of entry into the programme. No clear pattern is evident: in Fessa those infants who began at six months and under grew better, but in Fedis and Meki, those at 7 to 12 months grew better.

Table 5 presents a detailed tabulation of the four individual growth patterns by age of the child at the beginning of the 12-month period of the pattern. (A child had to have had at least 6 months of participation (and recorded weighings) to be included in the analysis). One "successful" group in each of the study centres is analyzed. If the child began the programme between 7-12 months, the pattern is analyzed according to whether it s/he began the period below or at/above 70% of the reference. Excluded from table are the borderline patterns. The group with the highest percentage of positive/recuperative patterns (38%) began the period at 7-12 months and at or above 70%. The lowest is the group that began the period above 36 months (only 8%). Almost no benefit in term of child growth is seen in these older children, and their graduation from the programme should be considered.

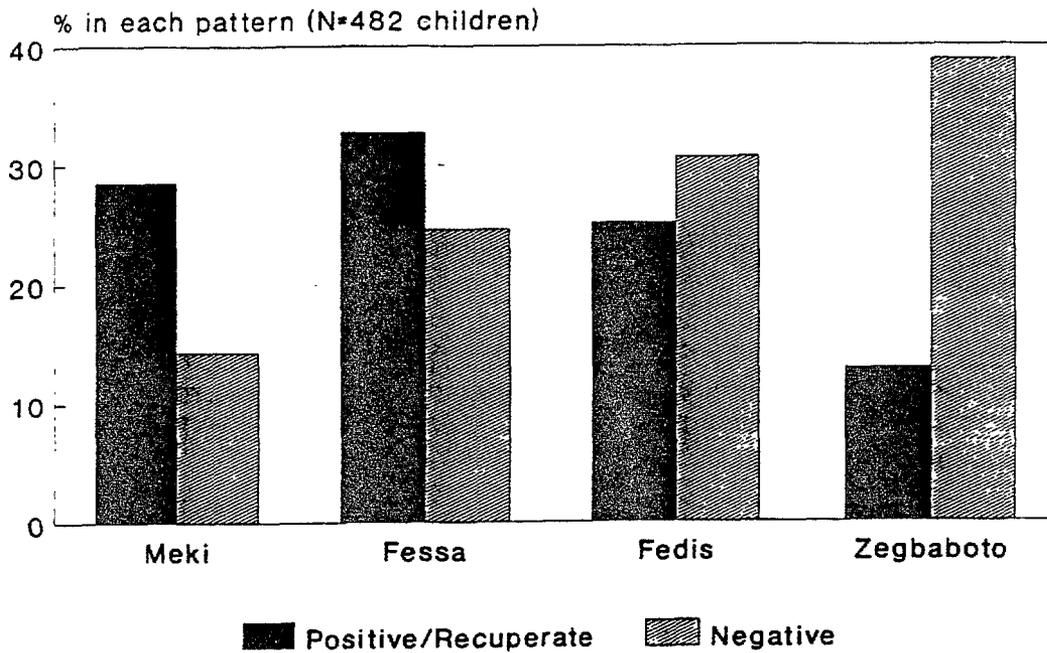
Among the four study sites, Zegbaboto had highest percentage with negative growth (46%), and Meki with the lowest (22%). A ratio between positive/recuperative and negative growth patterns was calculated: again, Zegbaboto had to lowest ratio (.33) and Meki the highest (2.0). Overall, there were slightly less positive/recuperative patterns than negative ones, a ratio of .94. The MCH programme should target this to rise above 1.0.

2. Recuperative rates in weekly programme: An analysis of the rates of improvement were calculated in the Meki programme participants observed. Of 43 children who entered at 65% and under in early September, 1992 and continued in the programme for eight straight weeks, only 37% improved their status to 70% or above. The age group that improved the most were the older ones (24-38 months).

3. Growth patterns in children of Community Nutrition Volunteers: It was the opinion of staff in Fedis that the programme probably has the greatest impact on the mothers with whom they were working most intensively, the 7 community nutrition volunteers. In analyzing the

Figure 16

POSITIVE/NEGATIVE GROWTH PATTERNS UNDER 4s, 4 STUDY MCH CENTERS, 1991-92



Pos/rec=rises in status;neg=declines Figure 17

Positive Growth Patterns by Age of Entry 4 Observed Pilot MCH Centers, 1990-92

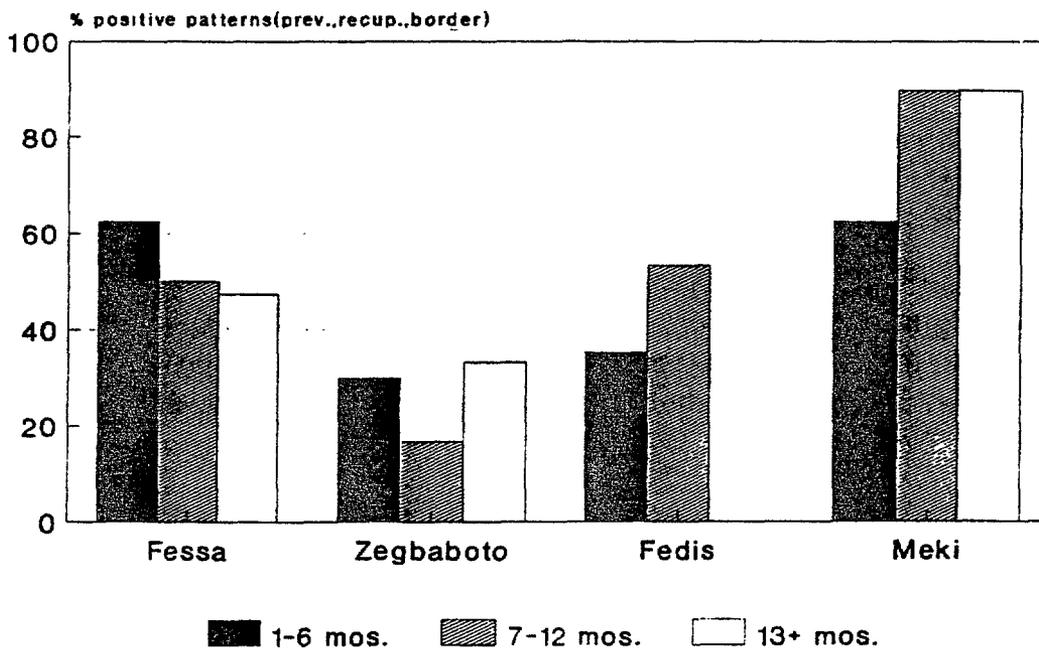


Table 4

PERCENT OF CHILDREN WITH POSITIVE CHANGE IN NUTRITIONAL STATUS
BETWEEN BEGINNING AND END OF 12-MONTH PERIOD

BY MCH CENTER, 1991-92

MCH CENTER (1 group*only)	% ANY POSITIVE (start at/above 70%, increased by at least 5%)	% RECUPERATIVE. (start below 70% and increased by at least 10%)
GendeTesta	37	34
Melkajebdu	40	43
Harar	37	62
Fedis A	32	17
Fedis E	36	35
JelloBelina	46	27
Wonji	48	40
Fessa	30	27
Zigbaboto	44	18
Dakuna	23	38
Emdibir	44	21
Metehara	39	43

* MCH staff at recent Nazareth workshop selected the one group they felt had been the most successful improving nutrition status

NOTE: Initial target could initially be 50% for recuperation; only Harer is was above 50%. Meki not included because time period was much longer, from age at entry.

SOURCE: MCH records; tabulation by MCH staff; analysis by Amsalu Selassie, CRS; interpretation by C. Teller, CRS consultant, Jan.93

Table 5
**GROWTH PATTERNS* OF INDIVIDUAL CHILDREN AGED 0-48 MONTHS IN A
 12-MONTH PERIOD, ONE GROUP** IN EACH OF FOUR STUDY SITES
 1991-1992**

AGE	MEKI group ("N")		ZEGB group ("A")		FESSA group ("T")		FEDIS group ("A")		TOTAL FOUR GROUPS/SITES			
	[at start of period]	% Pos & Recup	% Neg	% Pos & Recup	% Neg	% Pos & Recup	% Neg	% Pos & Recup	% Neg	(N)		
1-6 mos		33.0	41.7	(0.0)	(66.6)	-	-	(12.5)	75.0	21.7	(23)	
7-12 mos (nutritional status at start)	< 70%	64.3	21.4	19.0	71.4	16.7	50.0	-	(75.0)	29.4	(51)	
	≥ 70%	42.4	18.2	(0.0)	(25.0)	40.0	-	53.8	7.7	38.2	(60)	
	TOTAL	48.9	19.1	16.6	56.7	23.5	35.3	41.2	23.5	35.1	(111)	
13-18 mos		41.2	17.6	28.6	42.9	36.4	27.3	-	(100.0)	32.6	(46)	
19-24 mos		40.0	20.0	7.7	61.5	37.0	25.9	36.8	31.6	31.9	(69)	
25-36 mos		-	-	17.2	27.6	39.1	21.7	33.3	28.2	33.0	(113)	
37-48 mos		-	-	(0.0)	(44.0)	(22.2)	(44.4)	-	(42.9)	8.0	(25)	
SUB-TOTAL		(38)	(19)	(15)	(45)	(40)	(30)	(28)	(34)	(121)	(128)	(387)
%		44.2	22.1	15.5	46.4	36.4	27.3	29.8	36.2	31.3	33.1	100.0
TOTAL N		(88)		(97)		(110)		(94)		(387)		
RATIO Pos + Recup Neg		2.0		.33		1.3		.83		.94		

Key:

() = less than 10 cases in the cell

- = no cases in cell

** = four patterns were identified: positive (pos); recuperative (recup); borderline; and negative (neg); borderline patterns by area are not included in this table

* = selected by the MOH staff as most successful of groups within each MCH Centre area

Source: CRS GSS record books, 1991-1992.

data from their children, three are now well-nourished (80% wt./age and over), two are in the 70% range, and one is at 65%. The growth patterns are generally excellent, three with positive and two with recuperative patterns, while one is irregular, and only one is negative, and this only in the past two months. These patterns are better than the average Fedis patterns, and thus confirm the hypothesis of the staff.

IX. SUMMARY AND CONCLUSIONS: BASIS FOR OPTIONS TO ASSIST COUNTERPARTS IN PLANNING FOR PROGRAMMATIC IMPROVEMENTS

Here is a list of strengths and weaknesses of the MCH programme as identified through the various RAP methods:

A. STRENGTHS

1. Growth monitoring mechanics (weighing, charting, plotting) efficiently performed with adequate accuracy.
2. Growth surveillance system data accurate with good coverage and potentially very useful for ongoing monitoring and evaluation.
3. Food shipments usually delivered on-time.
4. Trend toward community-based health and nutrition activities including home visiting.
5. Plans for integration of MCH with other development activities.
6. Charismatic leadership and dedicated, committed staff at many counterpart levels.
7. New flexibility with food aid resources for monetization and institutional strengthening activities.

B. WEAKNESSES

1. Lack of concensus on basic MCH programme objectives.
2. Inappropriate, inconsistent targeting and selection criteria.
3. Underutilization of the GSS and other nutrition information (given the good accuracy of the data).

4. Dual roles of the food supplement as income transfer (worth twice mother's monthly income) and incentive for programme participation more important than as a direct nutritional intervention.
5. Inadequately trained, supervised and remunerated MCH staff; many still lack full DELTA training; lack language and effective communication skills.
6. Infrequent and inadequate technical backstopping and supportive supervision of MCH staff by counterparts and CRS.
7. Bureaucracy and paperwork overload imposition by AID regulations and CRS guidelines.
8. Induced community participation without adequate social mobilization and preparation as well as inadequate knowledge of and respect for traditional beliefs and practices.
9. Inadequate technical expertise/experience in community-based nutrition and household food security in staff at CRS/E and CRS/Balto.

C. OPTIONS FOR PROGRAMMATIC IMPROVEMENT

This is a preliminary draft of a list programmatic options for further consideration. They should be reviewed closely by CRS/Ethiopia and their technical consultants and then presented for consultation, feedback and prioritization by all CRS counterparts in the Regions. Greater involvement of the counterparts, as attempted during the assessment phase, in the evaluation and replanning is crucial. The sooner the counterparts are fully involved in the planning phases, the greater ownership and capacity-building they will be achieve.

SHORT TERM (1993; fine-tuning of existing programme)

1. Retarget the new beneficiaries towards three high risk groups:
 - a) infants of 4-6 months who are up-to-date with their vaccinations
 - b) existing beneficiary mothers who are moderately/severely malnourished
 - c) food insecure villages where CRS is presently, or will shortly, develop community-based health and other development programmes.

Graduate all children over 36 months, as their growth trend potential is much lower than the younger participants, and leaving vacancies for the more vulnerable infants to enter the programme.

2. Develop an ongoing nutrition monitoring component, building on the existing Growth Surveillance System (GSS), and based on revised objectives/sub-objectives and feasible bench mark indicators (see Table 6).

The monitoring components will include:

- a) Baseline and yearly mini-KAP surveys
 - b) Monthly centre-based growth monitoring record system, including Master chart and simplified computerized code sheet
 - c) Village-based home-visiting follow up
 - d) On-going monthly and quarterly programme monitoring and quantifiable supervision system coordinated by counterparts and CRS.
3. Improve the quality of the growth promotion component:
 - a) refresher courses in growth monitoring skills
 - b) train a focal person for individualized nutrition counselling
 - c) revitalize the food demonstration and psycho-social dynamics component of the group education.
 4. Strengthen and reinforce the technical capacity of CRS/ET and counterparts to redesign, train, supervise and monitor the restructuring of the MCH Nutrition Programme towards a more preventive, community-based and sustainable mode.
 - a) Increase the staffing at CRS/ET, adding two types of people:
 - 1) a public health nutrition specialist, as the new TOF for counterpart technical training and supervision
 - 2) a health information/monitoring systems person
 - b) Add an MCH/nutrition/food security technical resource person in each counterpart region, in a similar position as Abeba in Hararge
 - c) Target for immediate technical training (TOT) in household food security and preventive community-based nutrition the existing PHC/CBHC coordinators in each region, including DELTA methods.
 5. Rebuild the morale of the counterpart staff
 - a) Provide incentives, through, for example, successful achievement of programme targets, increased decision-making authority, etc.
 - b) Retrain in competency-based methods
 - c) Provide supportive supervision.

MID-TERM (1-3 yrs.)

1. Develop, together with the counterpart, a set of common goals and objectives (see Table 6), flexible enough to met the needs of individual counterparts, working toward a decentralization of the programme.
2. Reorient the programme towards a more preventive health and household food security focus, addressing the maternal nutrition and health needs first, and infants before moderate and severe malnutrition sets in later. This would entail a redefinition of the role of food aid and supplementation, and a time-bound eligibility for beneficiaries. Some of the options include food supplementation as :
 - a) An Income transfer to chronically food insecure families
 - b) A temporary supplement to the seasonally food insecure
 - c) A nutritional supplement to pregnant, malnourished mothers
 - d) A short-term nutrition intervention to achieve catch-up growth for growth faltered young children
 - e) An incentive for participation in maternal health/nutrition education activities
 - f) A food-for-work incentive for start-up of food-security oriented women's group activities.
3. Emphasize sustainable food security and development projects like small enterprise development, village banks, village stores, etc. This should entail the mobilization of traditional community groups like Equib, Mahiber, Mariam etc.
4. Carry out in-depth socio-anthropological studies to increase the cultural understanding and respect for community and family belief and value systems necessary to gain true community acceptance and participation.
5. Prioritize the technical inputs based on assessment and baseline studies, including, among other possibilities:
 - a) Increasing access to potable water
 - b) Hybrid seedlings (potato, carrot)
 - c) Indigenous handicrafts
 - d) Family planning.
6. Promote coordination of MCH centre activities with other health-related community resource persons and institutions as well as traditional healers, midwives, religious leaders, teachers, etc.

Table 6

SUGGESTED OBJECTIVES AND BENCH MARK INDICATORS
MCH/GROWTH PROMOTION PROGRAMME, CRS/ETHIOPIA
MYOP, 1994-1996

OBJECTIVES/SUB-OBJECTIVES	BENCH MARK INDICATORS
<p>I. <u>Prevent malnutrition</u> in high-risk mothers and infants</p> <p>A. Decreased incidence of growth faltering in under-twos</p> <p>B. Increased nutritional status of malnourished pregnant and lactating mothers</p> <p>C. Retargeted programme towards high-risk mothers and children under two</p> <p>D. Expanded community-based growth monitoring/MCH activities</p>	<p>1. Incidence of growth faltering at/under 30%/month</p> <p>2. Positive growth patterns above 50% at each quarter</p> <p>3. Level of severe malnutrition of preg/lact mothers at under 10%</p> <p>4a. Proportion of new entrants under one at 70%; new criteria to include malnourished mothers; graduation at 24 months for children at/above 80% median</p> <p>4b. Several pilot GB-GP strengthened/expanded</p>
<p>II. Provide/promote <u>quality health, nutrition and food supplementation</u> interventions</p> <p>A. Develop a maternal nutrition promotion component tied in with antenatal service</p> <p>B. Provide ongoing growth monitoring/promotion with effective nutrition counselling and home visit follow up, including training a staff member as focal person</p> <p>C. Promote EPI and ensure it's updated before entry in Programme</p> <p>D. Redefine the role of supplementation as both a short-term treatment for catch-up growth and as an incentive for the mothers education and her participation in related development projects</p>	<p>5. Proportion of pregnant mothers being screened for undernutrition at 80%</p> <p>6. A counselling focal point in each MCH centre</p> <p>7. Proportion of growth faltering children home visited in accessible villages at 80%</p> <p>8. 80% of new participants up-to-date with vaccine record before entry</p> <p>9. Change in MCH attitude from recuperation to prevention in 90% of staff</p>

Table 6 (continued)

SUGGESTED OBJECTIVES AND BENCH MARK INDICATORS
MCH/GROWTH PROMOTION PROGRAMME, CRS/ETHIOPIA
MYOP, 1994-1996

OBJECTIVES/SUB-OBJECTIVES	BENCH MARK INDICATORS
<p>III. Develop an ongoing <u>nutrition/information</u> (monitoring/evaluation) system</p> <p>A. Baseline, community needs assessments and periodic KAP surveys</p> <p>B. Monthly and quarterly monitoring combined with quantifiable supervision</p> <p>C. Carry out operations research and RAP studies to pilot test new approaches and interventions</p>	<p>10. Surveys carried out in 70% of catchment areas</p> <p>11. Supervisory checklists being used regularly, combined with on-the-job training</p> <p>12. OR/RAP carried out in all pilot areas</p>
<p>IV. Strengthen the <u>technical capacity of CRS and regional counterparts</u> to plan and manage the restructuring of the MCH nutrition program towards a more preventive, community-based and sustainable mode</p> <p>A. Increase staffing at CRS and counterpart levels</p> <p>B. Increase technical training of CRS and counterpart staff</p> <p>C. Establish common goals and objectives of the programme, with respective targets</p> <p>D. Reorient the programme towards a more preventive and household security focus</p>	<p>13. All three regional counterparts with a nutrition supervisor; CRS with new public nutrition specialist</p> <p>14. MCH nutrition update training course (1 per year)</p> <p>15. Counterparts involved in definition of goals and objectives</p> <p>16. Staff emphasizing preventive and household food security</p>

Appendix I

FOOD SECURITY
INDICATORS

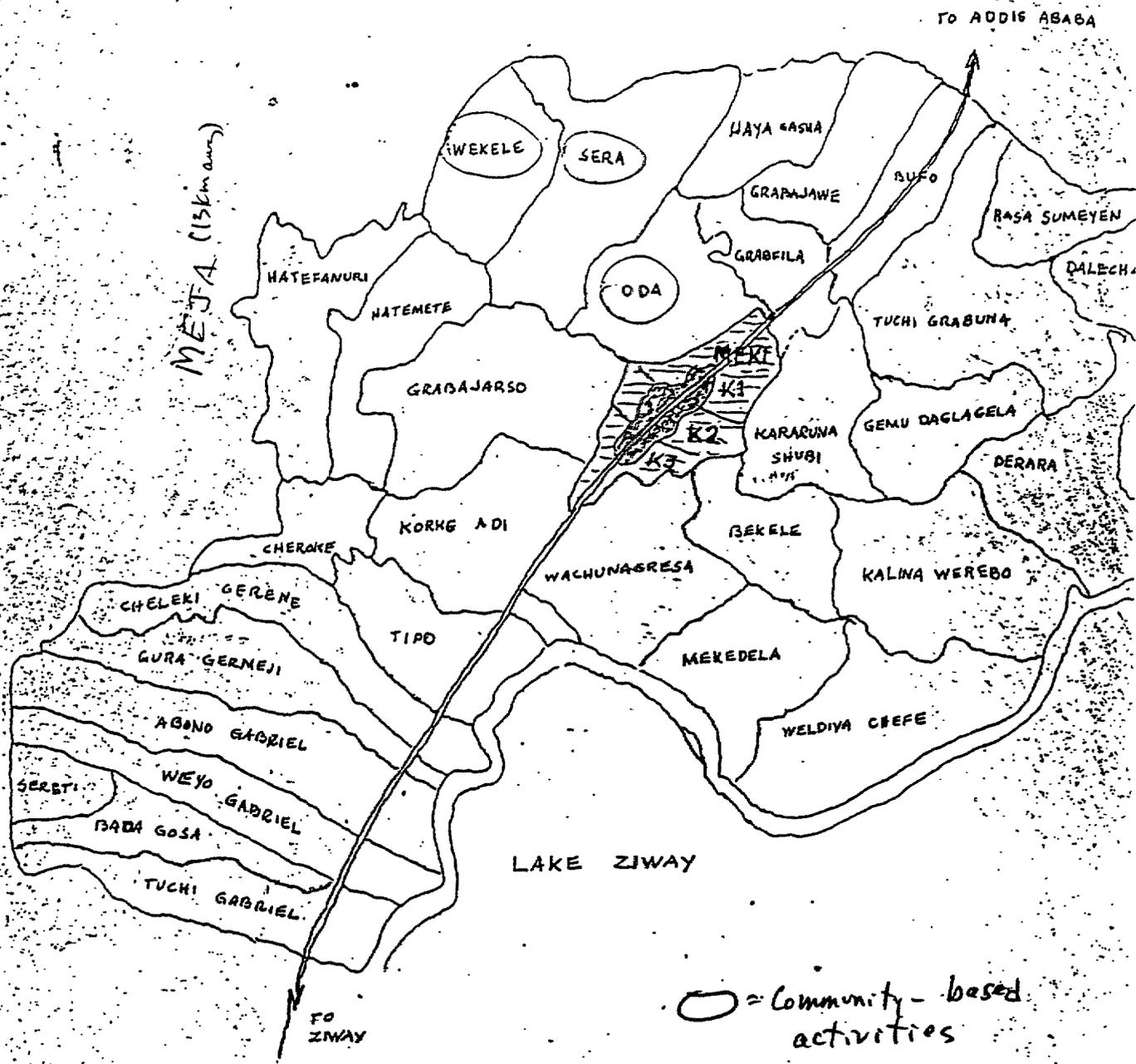
1. Cost of production
2. Employment
3. Land tenure
4. Food stocks
5. Prices
6. Coping strategies
7. The contribution of household production
8. Lack of income/purchasing power
9. Expenditure patterns of household during pre-harvest period
10. Imperfect market
11. The no. of calories consumed
12. Availability of weaning food
13. Wasting of food
14. Women's decision making and household food security
15. Resource utilization and household food security
16. Food production and consumption trends
17. Availability of sufficient and culturally acceptable supplies
18. Accessibility and viable procurement of households to available foods
19. Sustainable food supplies to ensure availability and access to all times.

LOCAL FOOD COMMODITY PRICES

SER. NO.	TYPE OF CROP	FEDIS BIRR/G	FESSA BIRR/G	MEKI BIRR/G
1	Wheat	210	140	130
2	Sorghum	240	-	-
3	Peas	200	200	125
4	Horse beans	180	170	120
5	Pepper	1600	400	-
6	Haircot Bean	165	-	140
7	Barley	172	60	80
8	Maize	150	-	60-70
9	Teff	260	230	200
10	Ground nut (processed)	575	-	-
11	Chickpeas	220	170	-
12	Onion	250	300	200
13	Enset (Matured plant)	-	20 Birr/plant	-
14	Coffee	1500	650	700
15	Lentils	400	-	-
16	Potatoes	150	80	-

Appendix II

Map: Meki Diocese

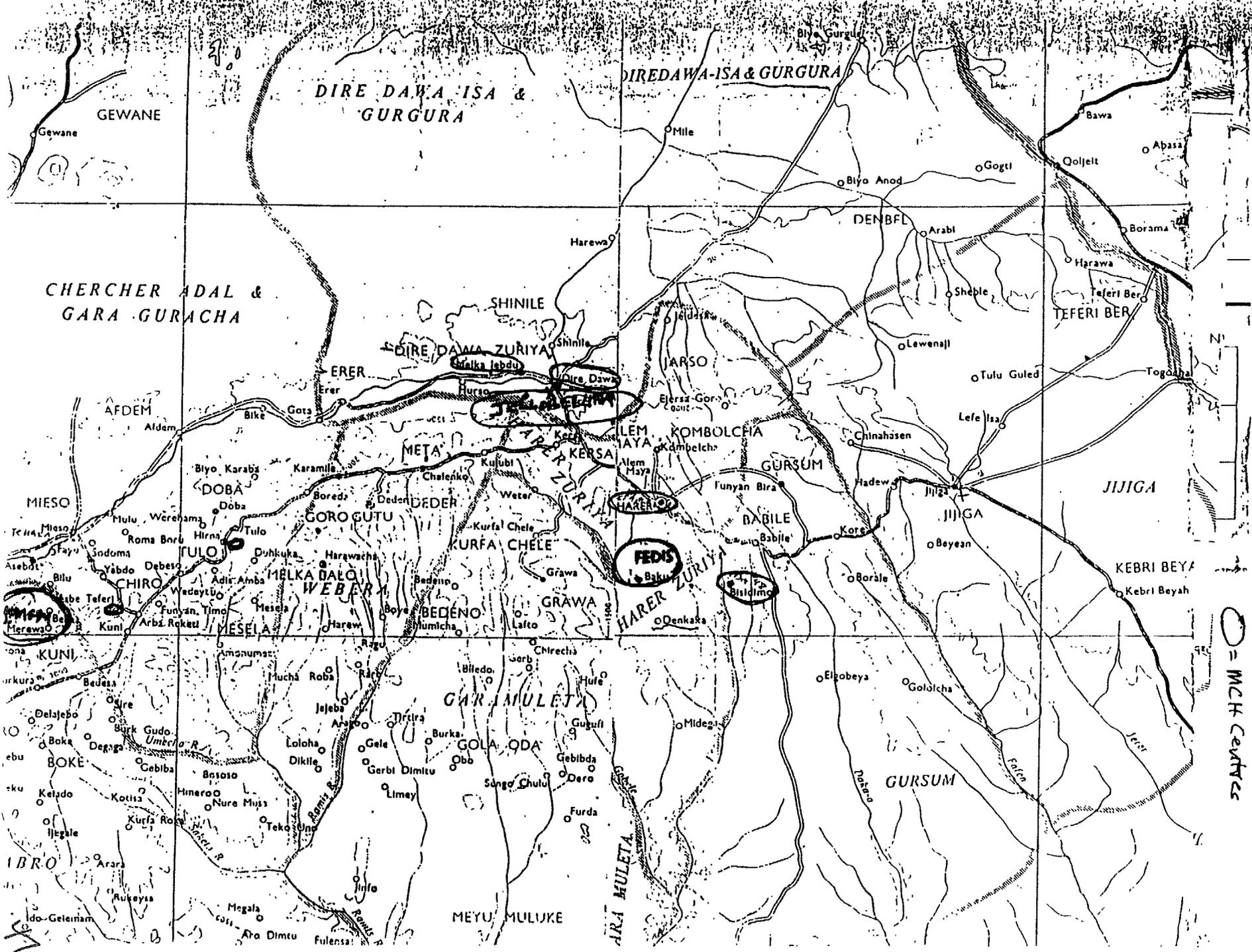


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 CATHOLIC CHURCH SCHOOL



Map: Hararge Catholic Diocesis

○ = MCH Centers

Appendix III

CRS MINI-SURVEY CODE SHEET

4 PILOT MCH CENTRES (N=133 mothers)

INDICATOR	CODES
Village Ref. No.	1 = < 100 Meki 2 = 100-199 Zegbaboto 3 = 200-399 Fedis 4 = 400-599 Fessa
Maternal Height	1 = AB (above borderline: > 152cms) 2 = B (borderline: 148-152cms) 3 = BB (below borderline: < 148)
Maternal MUAC (Mid-Upper Arm Circumference)	1 = < 22.1cms 2 = 22.1-23.0 3 = 23.1-24.0 4 = 24.1-25.0 5 = > 25.0 cms
Maternal Anemia (color of lower eye lid)	1 = red/pink 2 = pink 3 = pale pink/white
Maternal Age	1 = 15-19yrs 2 = 20-35 3 = > 35
Maternal Education (last grade completed)	1 = illiterate 2-7 = actual grade minus 1 8 = high school
Maternal Religion	1 = Christian 2 = Moslem 3 = other, none
Maternal Native Language	1 = Amharic 2 = Oromogna 3 = Guraginya 4 = other
Marital Status (of mother)	1 = married (monogamous) 2 = married (polygamous) 3 = single, widow
Husband's occupation	1 = farmer 2 = other
Mother earns money	1 = yes; 2 = no
No. live born to mother	1-10 = exact no. ever
No. children alive now	1-8 = exact no. now
No. children under 5 yrs.	1-4 = exact no. now

Pregnancy/lactating status	1 = pregnant 2 = lactating 3 = neither
Participation in CRS MCH Programme	1-48 = no. of months
Months on waiting list	1-16 = no. of months
Age of index (participating) child	1-48 = actual age in months
Mother has child younger than index child	1 = yes; 2 = no
Distance from MCH centre to mother's village	1-15 = actual kilometers
Mother interprets how well her own index child is growing	1 = well 2 = medium 3 = not well
Mother knows meaning of colors on CRS growth chart	1 = correct meaning 2 = incorrect
Mother explains growth pattern on CRS/growth chart	1 = correct 2 = incorrect
Mother participates in traditional woman's group	1 = yes; 2 = no
Maternal confidence (in child rearing)-observed	1 = high 2 = medium 3 = low
Child has any vaccination	1 = yes; 2 = no
Child's vaccination incomplete (for age)	1 = yes; 2 = no
Last height of child	(in cms.)
Age last height of child	(in months)
Weight at last height	(in kilos/grams)
Present weight of child	(in kilos/grams)
Present nutritional status (% of reference weight-for-age) of index child	1 = < 60% (severe undernutrition) 2 = 60-69% (moderate) 3 = 70-79% (mild) 4 = 80% and above (normal)
Observations of degree of alertness of mother	1 = high 2 = medium 3 = low

Chi square = 28.72
 Degrees of freedom = 6
 p value = 0.0006884 <---

REFNOV	AGEYR			Total
	ADULT	TEEN	YOUNG AD	
VILL1	2	0	20	22
	9.1%	0.0%	90.9%	16.7%
VILL2	6	1	19	26
	23.1%	3.8%	73.1%	19.7%
VILL3	6	11	43	60
	10.0%	18.3%	71.7%	45.5%
VILL4	8	0	16	24
	33.3%	0.0%	66.7%	18.2%
	36.4%	0.0%	16.3%	
Total	22	12	98	132
	16.7%	9.1%	74.2%	

Chi square = 18.67
 Degrees of freedom = 6
 p value = 0.00475489 <---

REFNOV	EDUCATIONG								Total
	1	2	3	4	5	7	8		
VILL1	20	0	2	0	0	0	0	22	
	90.9%	0.0%	9.1%	0.0%	0.0%	0.0%	0.0%	16.8%	
VILL2	24	1	1	0	0	0	0	26	
	92.3%	3.8%	3.8%	0.0%	0.0%	0.0%	0.0%	19.8%	
VILL3	54	1	0	1	1	2	1	60	
	90.0%	1.7%	0.0%	1.7%	1.7%	3.3%	1.7%	45.8%	
VILL4	22	0	0	0	0	1	0	23	
	95.7%	0.0%	0.0%	0.0%	0.0%	4.3%	0.0%	17.6%	
	18.3%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%		
Total	120	2	3	1	1	3	1	131	
	91.6%	1.5%	2.3%	0.8%	0.8%	2.3%	0.8%		

An expected value is < 5. Chi square not valid.

Chi square = 13.65
 Degrees of freedom = 18
 p value = 0.75160532

6

Religion

REFNOV	<i>CHRS</i>		Total
	1	2	
VILL1	22	0	22
	>100.0%	0.0%	> 16.5%
VILL2	18	8	26
	>69.2%	30.8%	> 19.5%
VILL3 <i>Fed's</i>	4	56	60
	>6.7%	<u>93.3%</u>	> 45.1%
VILL4	20	5	25
	>80.0%	20.0%	> 18.8%
	31.3%	7.2%	
Total	64	69	133
	48.1%	51.9%	

Chi square = 79.84
 Degrees of freedom = 3
 p value = 0.0000000 <---

7

MARITALSTA

REFNOV	<i>m mP Single</i>			Total
	1	2	3	
VILL1 <i>Neti</i>	12	8	2	22
	>54.5%	<u>36.4%</u>	9.1%	> 16.5%
VILL2	21	4	1	26
	>80.8%	15.4%	3.8%	> 19.5%
VILL3	55	1	4	60
	>91.7%	1.7%	6.7%	> 45.1%
VILL4	18	6	1	25
	>72.0%	24.0%	4.0%	> 18.8%
	17.0%	31.6%	12.5%	
Total	106	19	8	133
	79.7%	14.3%	6.0%	

An expected value is < 5. Chi square not valid.
 Chi square = 19.64
 Degrees of freedom = 6
 p value = 0.00320505 <---

Answers

REFNOV	<i>OCCUPATION</i>			Total
	1	2	9	
VILL1	20	0	0	20
	>100.0%	0.0%	0.0%	> 15.7%
VILL2	25	0	0	25
	>100.0%	0.0%	0.0%	> 19.7%
VILL3	53	4	0	57
	>93.0%	<u>7.0%</u>	0.0%	> 44.9%
VILL4	23	1	1	25
	>92.0%	4.0%	4.0%	> 19.7%
	19.0%	20.0%	100.0%	
Total	121	5	1	127
	95.3%	3.9%	0.8%	

52

CRS/ET MINISURVEY - EPI ¹¹⁻¹⁰⁻¹⁹⁹⁸ HFC EIMS

Cleaned Dec 2

HEIGHTABBB REFNOV	AB 1	B 2	BB 3	Total
VILL1 <i>Mali</i>	15	4	3	22
	>68.2%18.2%13.6%			> 16.5%
	20.5% 9.5%16.7%			
VILL2 <i>Zegb.</i>	17	7	2	26
	>65.4%26.9% 7.7%			> 19.5%
	23.3%16.7%11.1%			
VILL3 <i>Fedis</i>	27	26	7	60
	>45.0%43.3%11.7%			> 45.1%
	37.0%41.9%38.9%			
VILL4 <i>Fecen</i>	14	5	6	25
	>56.0%20.0% <u>24.0%</u>			> 18.8%
	19.2%11.9%33.3%			
Total	73	42	18	133
	54.9%31.6%13.5%			

An expected value is < 5. Chi square not valid.
 Chi square = 10.25
 Degrees of freedom = 6
 p value = 0.11436026

REFNOV	MJACCHGRP GROUP1	GROUP2	GROUP3	GROUP4	GROUP5
VILL1 <i>Mali</i>	2	4	5	5	
	> 9.1% 18.2% 22.7% 22.7%				
	6.1% 14.8% 18.5% 20.0%				
VILL2 <i>Zegb.</i>	10	3	7	6	
	> <u>38.5%</u> 11.5% 26.9% 23.1%				
	30.5% 11.1% 25.9% 24.0%				
VILL3 <i>Fedis</i>	13	12	11	10	
	> 21.7% 20.0% 18.3% 16.7%				
	39.4% 44.4% 40.7% 40.0%				
VILL4 <i>Fecen</i>	8	8	4	4	
	> 32.0% 32.0% 16.0% 16.0%				
	24.2% 29.6% 14.8% 16.0%				
Total	33	27	27	25	
	24.8% 20.3% 20.3% 18.8%				

725.0 →
Group 5

2

53

REFNOV	GROUPS	Total
VILL1	6	22
	> 27.3%	> 16.5%
	28.6%	
VILL2	0	26
	> 0.0%	> 19.5%
	0.0%	
VILL3	14	60
	> 23.3%	> 45.1%
	66.7%	
VILL4	1	25
	> 4.0%	> 18.8%
	4.8%	
Total	21	133
	15.8%	

An expected value is < 5. Chi square not valid.
 Chi square = 19.58
 Degrees of freedom = 12
 p value = 0.07545247

REFNOV	RP	PK	PL	Total
VILL1	5	12	5	22
	>22.7%	>54.5%	>22.7%	> 16.7%
	13.5%	20.7%	13.5%	
VILL2	4	20	2	26
	>15.4%	>76.9%	>7.7%	> 19.7%
	10.8%	34.5%	5.4%	
VILL3	16	17	27	60
	>26.7%	>28.3%	>45.0%	> 45.5%
	43.2%	29.3%	73.0%	
VILL4	12	9	3	24
	>50.0%	>37.5%	>12.5%	> 18.2%
	32.4%	15.5%	8.1%	
Total	37	58	37	132
	28.0%	43.9%	28.0%	

3

54

An expected value is < 5. Chi square not valid.
 Chi square = 7.39
 Degrees of freedom = 6
 p value = 0.28620743

SHEERNS REFMOV	Yes No		Total
	+	-	
VILL1	8	14	22
	> 36.4%	63.6%	> 16.5%
VILL2	20	6	26
	> 76.9%	23.1%	> 19.5%
VILL3	11	49	60
	> 18.3%	81.7%	> 45.1%
VILL4	12	13	25
	> 48.0%	52.0%	> 18.8%
	23.5%	15.9%	
Total	51	82	133

Zeg.

| 38.3% 61.7% |

Chi square = 27.55
 Degrees of freedom = 3
 p value = 0.00000651 <---

NUMBERLIVE *Box*

REFNOV	1	2	3	4	5	6
VILL1	1	4	2	3	3	2
	> 4.5%	18.2%	9.1%	13.6%	13.6%	9.1%
	5.6%	30.8%	9.1%	13.6%	14.3%	15.4%
VILL2	4	3	4	4	8	2
	> 15.4%	11.3%	15.4%	15.4%	30.8%	7.7%
	22.2%	23.1%	18.2%	18.2%	38.1%	15.4%
VILL3	11	4	11	9	8	5
	> 18.3%	6.7%	18.3%	15.0%	13.3%	8.3%
	61.1%	30.8%	50.0%	40.9%	38.1%	38.5%
VILL4	2	2	5	6	2	4
	> 8.0%	8.0%	20.0%	24.0%	8.0%	16.0%
	11.1%	15.4%	22.7%	27.3%	9.5%	30.8%
Total	18	13	22	22	21	13
	13.5%	9.8%	16.5%	16.5%	15.8%	9.8%

9

NUMBERLIVE

REFNOV	7	8	9	10	Total
VILL1	5	2	0	0	22
	> 22.7%	9.1%	0.0%	0.0%	16.5%
	45.5%	20.0%	0.0%	0.0%	
VILL2	1	0	0	0	26
	> 3.8%	0.0%	0.0%	0.0%	19.5%
	9.1%	0.0%	0.0%	0.0%	
VILL3	4	5	1	2	60
	> 6.7%	8.3%	1.7%	3.3%	45.1%
	36.4%	50.0%	100.0%	100.0%	
VILL4	1	3	0	0	25
	> 4.0%	12.0%	0.0%	0.0%	18.8%
	9.1%	30.0%	0.0%	0.0%	
Total	11	10	1	2	133
	8.3%	7.5%	0.8%	1.5%	

An expected value is < 5. Chi square not valid.
 Chi square = 26.93
 Degrees of freedom = 27
 p value = 0.46733170

NUMBERALIVE

REFNOV	1	2	3	4	5	6
VILL1	2	6	3	2	2	4
	> 9.1%	27.3%	13.6%	9.1%	9.1%	18.2%
	6.7%	21.4%	11.1%	11.1%	12.5%	26.7%
VILL2	4	5	10	4	1	2
	> 15.4%	19.2%	38.5%	15.4%	3.8%	7.7%
	17.4%	17.9%	37.0%	22.2%	6.3%	13.3%
VILL3	14	12	11	8	10	2
	> 23.3%	20.0%	18.3%	13.3%	16.7%	3.3%
	60.9%	42.9%	40.7%	44.4%	62.5%	13.3%
VILL4	3	5	3	4	3	7
	> 12.0%	20.0%	12.0%	16.0%	12.0%	28.0%
	13.0%	17.9%	11.1%	22.2%	18.8%	46.7%
Total	23	28	27	18	16	15
	17.3%	21.1%	20.3%	13.5%	12.0%	11.3%

10

96

NUMBERALIVE				
REFNOV	7	8	Total	
VILL1	3	0	22	
	> 13.6%	0.0%	> 16.5%	
	60.0%	0.0%		
VILL2	0	0	26	
	> 0.0%	0.0%	> 19.5%	
	0.0%	0.0%		
VILL3	2	1	60	
	> 3.3%	1.7%	> 45.1%	
	40.0%	100.0%		
VILL4	0	0	25	
	> 0.0%	0.0%	> 18.8%	
	0.0%	0.0%		
Total	5	1	133	
	3.8%	0.8%		

An expected value is < 5. Chi square not valid.
 Chi square = 31.57
 Degrees of freedom = 21
 p value = 0.06464243

NUMBER UNDER 5 yrs						
REFNOV	0	1	2	3	4	Total
VILL1	1	8	11	1	1	22
	> 4.5%	36.4%	50.0%	4.5%	4.5%	> 16.5%
	100.0%	16.3%	16.7%	7.1%	33.3%	
VILL2	0	7	16	3	0	26
	> 0.0%	26.9%	61.5%	11.5%	0.0%	> 19.5%
	0.0%	14.3%	24.2%	21.4%	0.0%	
VILL3	0	25	25	8	2	60
	> 0.0%	41.7%	41.7%	13.3%	3.3%	> 45.1%
	0.0%	51.0%	37.9%	57.1%	66.7%	
VILL4	0	9	14	2	0	25
	> 0.0%	36.0%	56.0%	8.0%	0.0%	> 18.8%
	0.0%	18.4%	21.2%	14.3%	0.0%	
Total	1	49	66	14	3	133
	0.8%	36.8%	49.6%	10.5%	2.3%	

Number under 5 yrs (cont)

Chi square = 11.18
 Degrees of freedom = 12
 p value = 0.51320790

REFNOV	1	2	3	Total
VILL1	16	2		22
	> 18.2%	72.7%	9.1%	> 16.9%
	50.0%	14.2%	22.2%	
VILL2	0	26	0	26
	> 0.0%	100.0%	0.0%	> 20.0%
	0.0%	23.0%	0.0%	
VILL3	1	52	7	60
	> 1.7%	86.7%	11.7%	> 46.2%
	12.5%	46.0%	77.8%	
VILL4	3	19	0	22
	> 13.6%	86.4%	0.0%	> 16.9%
	37.5%	16.8%	0.0%	
Total	8	113	9	130
	6.2%	86.9%	6.9%	

An expected value is < 5. Chi square not valid.

Chi square = 17.18

Degrees of freedom = 6

p value = 0.00863681 <---

REFNOV	MONTHSWAIT PARNC.					
	1	2	3	4	5	6
VILL1	0	4	1	3	1	2
	> 0.0%	36.4%	9.1%	27.3%	9.1%	18.2%
	0.0%	33.3%	11.1%	30.0%	14.3%	28.6%
VILL2	13	0	1	1	5	3
	> 50.0%	0.0%	3.8%	3.8%	19.2%	11.5%
	39.4%	0.0%	11.1%	10.0%	71.4%	42.9%
VILL3	6	8	7	5	1	1
	> 20.0%	26.7%	23.3%	16.7%	3.3%	3.3%
	18.2%	66.7%	77.8%	50.0%	14.3%	14.3%
VILL4	14	0	0	1	0	1
	> 82.4%	0.0%	0.0%	5.9%	0.0%	5.9%
	42.4%	0.0%	0.0%	10.0%	0.0%	14.3%
Total	33	12	9	10	7	7
	39.3%	14.3%	10.7%	11.9%	8.3%	8.3%

REFNOV	MONTHSWAIT					Total
	7	8	12	13	15	
VILL1	0	0	0	0	0	11
	> 0.0%	0.0%	0.0%	0.0%	0.0%	> 13.1%
	0.0%	0.0%	0.0%	0.0%	0.0%	
VILL2	0	1	2	0	0	26
	> 0.0%	3.8%	7.7%	0.0%	0.0%	> 31.0%
	0.0%	100.0%	100.0%	0.0%	0.0%	
VILL3	1	0	0	0	1	30
	> 3.3%	0.0%	0.0%	0.0%	3.3%	> 35.7%
	100.0%	0.0%	0.0%	0.0%	100.0%	
VILL4	0	0	0	1	0	17
	> 0.0%	0.0%	0.0%	5.9%	0.0%	> 20.2%
	0.0%	0.0%	0.0%	100.0%	0.0%	
Total	1	1	2	1	1	84
	1.2%	1.2%	2.4%	1.2%	1.2%	

An expected value is < 5. Chi square not valid.

Chi square = 64.09

Degrees of freedom = 30

p value = 0.0000000 <-

SB

REFNOV	AGEINDEXCH					
	4	5	6	7	9	10
LL1	0	0	0	0	0	0
>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
LL2	0	0	0	0	1	3
>	0.0%	0.0%	0.0%	0.0%	3.8%	11.5%
LL3	1	2	1	4	2	2
>	1.7%	3.3%	1.7%	6.7%	3.3%	3.3%
LL4	0	0	0	0	0	0
>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	1	2	1	4	3	5
	0.8%	1.5%	0.8%	3.0%	2.3%	3.8%

REFNOV	AGEINDEXCH					
	11	12	13	14	15	16
LL1	0	1	1	1	0	1
>	0.0%	4.5%	4.5%	4.5%	0.0%	4.5%
LL2	4	0	2	3	4	1
>	15.4%	0.0%	7.7%	11.5%	15.4%	3.8%
LL3	3	3	4	6	2	6
>	5.0%	5.0%	6.7%	10.0%	3.3%	10.0%
LL4	1	0	0	0	5	0
>	4.0%	0.0%	0.0%	0.0%	20.0%	0.0%
Total	8	4	7	10	11	8
	6.0%	3.0%	5.3%	7.5%	8.3%	6.0%

REFNOV	AGEINDEXCH					
	17	18	19	20	21	22

14

HASYOUNGER SIBLING				
REFNOV	+	-	Total	
.1 Inki	2	18	20	
	> 10.0%	> 90.0%	> 15.3%	
	66.7%	14.1%		
.2	0	26	26	
	> 0.0%	> 100.0%	> 19.8%	
	0.0%	20.3%		
.3	1	59	60	
	> 1.7%	> 98.3%	> 45.8%	
	33.3%	46.1%		
.4	0	25	25	
	> 0.0%	> 100.0%	> 19.1%	
	0.0%	19.5%		
Total				
	3	128	131	
	2.3%	97.7%		

Chi square = 6.61
 Degrees of freedom = 3
 p value = 0.08532819

60

DISTANCEVILLAGE → CENTRE

REFNOV	0.50	1.00	1.50	2.00	3.00	4.00
VILL1	1	3	0	0	0	0
	> 4.5%	13.6%	0.0%	0.0%	0.0%	0.0%
	100.0%	21.4%	0.0%	0.0%	0.0%	0.0%
VILL2	0	0	0	0	6	6
	> 0.0%	0.0%	0.0%	0.0%	23.1%	23.1%
	0.0%	0.0%	0.0%	0.0%	100.0%	60.0%
VILL3	0	10	29	20	0	0
	> 0.0%	16.7%	48.3%	33.3%	0.0%	0.0%
	0.0%	71.4%	100.0%	95.2%	0.0%	0.0%
VILL4	0	1	0	1	0	4
	> 0.0%	4.2%	0.0%	4.2%	0.0%	16.7%
	0.0%	7.1%	0.0%	4.8%	0.0%	40.0%
Total	1	14	29	21	6	10
	0.8%	10.6%	22.0%	15.9%	4.5%	7.6%

REFNOV	5.00	6.00	7.00	8.00	9.00	10.00
VILL1	0	0	0	7	0	0
	> 0.0%	0.0%	0.0%	31.8%	0.0%	0.0%
	0.0%	0.0%	0.0%	63.6%	0.0%	0.0%
VILL2	1	3	4	3	1	1
	> 3.8%	11.5%	15.4%	11.5%	3.8%	3.8%
	33.3%	37.5%	40.0%	27.3%	100.0%	50.0%
VILL3	0	1	0	0	0	0
	> 0.0%	1.7%	0.0%	0.0%	0.0%	0.0%
	0.0%	12.5%	0.0%	0.0%	0.0%	0.0%
VILL4	2	4	6	1	0	1
	> 8.3%	16.7%	25.0%	4.2%	0.0%	4.2%
	66.7%	50.0%	60.0%	9.1%	0.0%	50.0%
Total	3	8	10	11	1	2
	2.3%	6.1%	7.6%	8.3%	0.8%	1.5%

REFNOV	12.00	13.00	15.00	Total
VILL1	0	11	0	22
	> 0.0%	50.0%	0.0%	> 16.7%
	0.0%	100.0%	0.0%	
VILL2	1	0	0	26
	> 3.8%	0.0%	0.0%	> 19.7%
	33.3%	0.0%	0.0%	
VILL3	0	0	0	60
	> 0.0%	0.0%	0.0%	> 45.5%
	0.0%	0.0%	0.0%	
VILL4	2	0	2	24
	> 8.3%	0.0%	8.3%	> 18.2%
	66.7%	0.0%	100.0%	
Total	3	11	2	132
	2.3%	8.3%	1.5%	

✓ Villes

An expected value is < 5. Chi square not valid.
 Chi square = 239.18
 Degrees of freedom = 42
 p value = 0.00000000 <---

HOWWELLCHI REFNOV	will	not will	Total
	12	8	22
	>54.5%	>36.4%	> 16.5%
	13.8%	22.9%	18.2%
	9	12	26
	>34.6%	>46.2%	> 19.5%
	10.3%	34.3%	45.5%
	52	8	60
	>86.7%	>13.3%	> 45.1%
	59.8%	22.9%	0.0%
	14	7	25
	>56.0%	>28.0%	> 18.8%
	16.1%	20.0%	36.4%
Total	87	35	133
	65.4%	26.3%	8.3%

Zegb

An expected value is < 5. Chi square not valid.
 Chi square = 27.81
 Degrees of freedom = 6
 p value = 0.00010187 <---

COLORCHART REFNOV	Known	Don't know	Total
	21	1	22
	> 95.5%	> 4.5%	> 16.5%
	19.8%	3.7%	
	16	10	26
	> 61.5%	> 38.5%	> 19.5%
	15.1%	37.0%	
	53	7	60
	> 88.3%	> 11.7%	> 45.1%
	50.0%	25.9%	
	16	9	25
	> 64.0%	> 36.0%	> 18.8%
	15.1%	33.3%	
Total	106	27	133
	79.7%	20.3%	

Zest

Fessa

Chi square = 15.25
 Degrees of freedom = 3
 p value = 0.00161645 <---

KNOWS MEANING OF GROWTH PATTERNS

17

	Yes	No	Total
VILL1	20	2	22
	> 90.9%	9.1%	> 16.5%
	19.4%	6.7%	
VILL2	16	10	26
	> 61.5%	38.5%	> 19.5%
	15.5%	33.3%	
VILL3	52	8	60
	> 86.7%	13.3%	> 45.1%
	50.5%	26.7%	
VILL4	15	10	25
	> 60.0%	40.0%	> 18.8%
	14.6%	33.3%	
Total	103	30	133
	77.4%	22.6%	

Chi square = 13.33
 Degrees of freedom = 3
 p value = 0.00398349 <---

WOMANSGROUP PARTIC.

	+	-	Total
VILL1	11	11	22
	> 50.0%	50.0%	> 29.7%
	28.2%	31.4%	
VILL2	17	9	26
	> 65.4%	34.6%	> 35.1%
	43.6%	25.7%	
VILL3	0	1	1
	> 0.0%	100.0%	> 1.4%
	0.0%	2.9%	
VILL4	11	14	25
	> 44.0%	56.0%	> 33.8%
	28.2%	40.0%	
Total	39	35	74
	52.7%	47.3%	

Chi square = 3.62
 Degrees of freedom = 3
 p value = 0.30604003

63

13

MATERNAL CONFIDENCE (OBSERVED)

REFNOV	1 High	2 Med	3 Low	Total
1	13	8	1	22
	> 59.1%	36.4%	4.5%	> 30.1%
	30.2%	29.6%	33.3%	
2	14	11	1	26
	> 53.8%	42.3%	3.8%	> 35.6%
	32.6%	40.7%	33.3%	
	16	8	1	25

Tedis

> 64.0%	32.0%	4.0%	> 34.2%
37.2%	29.6%	33.3%	

Total	43	27	3	73
	58.9%	37.0%	4.1%	

An expected value is < 5. Chi square not valid.

Chi square = 0.61

Degrees of freedom = 4

p value = 0.96217288

64

ADJ

VACCINATION#		yes	NO	Total
REFNOV		1	2	
VILL1	<i>Maria</i>	12	10	22
		> 54.5%	<u>45.5%</u>	16.5%
		13.0%	26.4%	
VILL2	<i>Leah</i>	13	13	26
		> 50.0%	<u>50.0%</u>	> 19.5%
		14.1%	31.7%	
VILL3		49	11	60
		> 81.7%	18.3%	> 45.1%
		53.3%	26.8%	
VILL4		18	7	25
		> 72.0%	28.0%	> 18.8%
		19.6%	17.1%	
Total		92	41	133
		69.2%	30.8%	

Chi square = 11.18
 Degrees of freedom = 3
 p value = 0.01081467 <---

COMPLETEVACC		yes	NO	Total
REFNOV		1	2	
VILL1	<i>Maria</i>	2	20	22
		> 9.1%	<u>90.9%</u>	16.5%
		5.3%	21.1%	
VILL2		6	20	26
		> 23.1%	76.9%	> 19.5%
		15.8%	21.1%	
VILL3		27	33	60
		> 45.0%	55.0%	> 45.1%
		71.1%	34.7%	
VILL4	<i>Felicia</i>	3	22	25
		> 12.0%	<u>88.0%</u>	> 18.8%
		7.9%	23.2%	
Total		38	95	133
		28.6%	71.4%	

60-

update VAcc (cont)

Chi square = 15.77
Degrees of freedom = 3
p value = 0.00126129 <---

REFNOV	WTAGE				Total
	MILD	MODER	NORMAL	SEVERE	
1	13	0	9	0	22
	> 59.1%	0.0%	40.9%	0.0%	> 16.7%
	26.0%	0.0%	42.9%	0.0%	
2	8	10	2	6	26
	> 30.8%	38.5%	7.7%	23.1%	> 19.7%
	16.0%	25.0%	9.5%	28.6%	
3	21	19	8	11	59
	> 35.6%	32.2%	13.6%	18.6%	> 44.7%
	42.0%	47.5%	38.1%	52.4%	
4	8	11	2	4	25
	> 32.0%	44.0%	8.0%	16.0%	> 18.9%
	16.0%	27.5%	9.5%	19.0%	
Total	50	40	21	21	132
	37.9%	30.3%	15.9%	15.9%	

1n expected value is < 5. Chi square not valid.

Chi square = 27.68
Degrees of freedom = 9
p value = 0.00107996 <---

DISTRIBUTION OF CHILDREN EVERBORN ALIVE
TO WOMEN BY AGE GROUP

AGE GROUP		AGE GROUP							TOTAL
		≤ 20	21-25	26-30	31-35	36-40	41-45	≥ 46	
FEDIS	NO OF WOMEN	17	18	15	4	4	1	1	60
	NO OF CHILDREN	26	70	89	23	30	8	8	254
ZEGBABUTO	NO OF WOMEN	4	6	9	2	6	-	-	27
	NO OF CHILDREN	11	12	15	8	31	-	-	70
FESSA	NO OF WOMEN	-	9	4	6	5	1	1	26
	NO OF CHILDREN	-	22	15	26	26	7	8	104
MEKI	NO OF WOMEN	2	4	7	5	1	1	-	20
	NO OF CHILDREN	3	11	38	31	8	7	-	98
TOTAL	NO OF WOMEN	23	37	35	17	16	3	2	133
	NO OF CHILDREN	33	115	157	88	95	22	16	526

Source: CRS/Pragya Mini-Survey, Nov. 1992; N=133 women
Calculation by EUI

REFNOV	PRESENTPER							
	59	60	65	70	75	80	85	
VILL1	0	0	0	5	8	6	1	
	> 0.0%	0.0%	0.0%	22.7%	36.4%	27.3%	4.5%	
VILL2	0	0	0	20.8	30.8	46.2	16.7	
	> 23.1%	23.1%	15.4%	15.4%	15.4%	7.7%	0.0%	
VILL3	11	5	14	12	9	5	3	
	> 18.6%	8.5%	23.7%	20.3%	15.3%	8.5%	5.1%	
VILL4	4	4	7	3	5	0	2	
	> 16.0%	16.0%	28.0%	12.0%	20.0%	0.0%	8.0%	
	19.0%	26.7%	28.0%	12.5%	19.2%	0.0%	33.3%	
Total	21	15	25	24	26	13	6	
	15.9%	11.4%	18.9%	18.2%	19.7%	9.8%	4.5%	

REFNOV	PRESENTPER	
	90	Total
VILL1	2	22
	> 9.1%	> 16.7%
VILL2	0	26
	> 0.0%	> 19.7%
VILL3	0	59
	> 0.0%	> 44.7%
VILL4	0	25
	> 0.0%	> 18.9%
Total	2	132
	1.5%	

An expected value is < 5. Chi square not valid.
 Chi square = 43.64
 Degrees of freedom = 21
 p value = 0.00000000 <---

MOTHERS CHARACTERISTICS BY VILLAGE

Mothers Characteristics	MEKI %	FEDIS %	ZEGB %	FESSA %	TOTAL (N)
<u>Age</u>					
19 years	0	18.3	3.8	0	12
20-35 years	90.9	71.7	73.1	66.7	98
36 and above	9.1	10	23.1	33.3	22
<u>Education</u>					
None	90.9	90	92.3	95.7	120
Some	9.1	10	7.7	4.0	11
<u>Religion</u>					
Christian	0	6.7	69.2	80	64
Muslim	100	93.3	30.8	20	69
<u>Number Under Five</u>					
0 - 1	41	41.7	26.9	36	50
2	50	41.7	61.5	56	66
3 - 4	9	16.6	11.5	8	17
<u>Employment</u>					
Yes	36.4	18.3	76.9	48	51
No	63.6	81.7	23.1	52	82
<u>Womens Group Participation</u>					
Yes	50	0	65.4	44.0	39
No	50	100	34.6	56.0	35

Source: Mini-Survey, N=133

Correlation Coefficients between Opinion
of Mothers on the growth of their child
and Nutritional Status of the Index child.

MCH Center	r	R ²
Jegbaboto	0.244	0.0596
Fessa	0.664	0.441
Meki	0.555	0.309
Feddis	0.130	0.017
Total	0.247	0.061

Source: CRS/Prasna Minisurvey, Nov. 1992, N=133 women
Calculation by ENI

Appendix IV

Nov. 1992

STUDY GUIDELINES
GROUP MEETING: CRS/MCH PROGRAMME COUNTERPARTS

- I. Introduction
- II. General Programme Description
- III. MCH Programme Description
- IV. Degree of Involvement in Planning, Management, Supervision and Monitoring
- V. Selection of Beneficiaries for MCH
- VI. Programme Progress, Strengths, Problems and Weaknesses
- VII. Capacity-Building and Human Resource Development, Training
- VIII. Community Level Work
- IX. Collaboration with Other Sectors
- X. Future Plans in the MCH Area

OBSERVATIONS

GUIDELINES FOR MCH CENTER STAFF FOCUS GROUPS

Facilitator:

- * Introduce yourself as a student from Addis Ababa U.
- * Objective: to share ideas about health and nutrition as part of a participatory study
- * Rules: confidentiality (no CRS or Counterpart staff participating)
- * No right/wrong answers/opinions
(key: P=probes if not mentioned spontaneously)
- * Allow for at least 90 minutes for formal discussion. Allow for another 30-60 minutes for refreshments and informal chats and followup.

1- Introductions:

- * What kind of work do each of you perform in the MCH program?
- * How long have you worked in the MCH program?

2- How is the health and nutritional status of the children and mothers they see?

- P- What kinds of growth patterns do you see in the children?
- P- What kinds of health problems do mothers have?

3- How does the MCH Program address these health/nutr. problems?

- P- What are the strengths of the current program?
Weaknesses?
- P- How are children selected to participate in program?
- P- What are some of the reasons for why some children's growth does not improve?
- P- Do mothers usually carry out the health/nutrition advice given by you? Why or why not?

4- What do you think the program could do to improve?

- P- What is the difference between a curative program emphasis and a preventive emphasis?
- P- How can malnutrition be prevented with the MCH program?

5- How could the above suggestions (strategies) be changed or improved?

- P- What frustrations do you have working in the program?
- P- What are your training needs? Supervision? Others?

SIMPLIFIED GROWTH PATTERN "WORK SHEET"

PERIODS COMPARED _____

GROUP _____

MCH CENTER _____

AGE & NUTRITIONAL STATUS (at Jan 1992)		INCREASE		NO CHANGE	DECREASE		% INCREASE	
Months	% of Reference	10% +	5% +	0	-5%	-10%	Any	10% +
1-6	<70%							
	≥70%							
7-12	<70%							
	≥70%							
13-18	<70%							
	≥70%							
19-24	<70%							
	≥70%							
25-36	<70%							
	≥70%							
37-48	<70%							
	≥70%							
TOTAL	<70%							
	≥70%							

74

CHECKLIST FOR KEY INFORMANT OF DISTRICT LEVEL

1. What is your impression of govt policy on food insecurity
2. What the present land use make impact on food production and insecurity
3. What are the effects of environmental degradation and how it effects food insecurity
4. What types of food are available and what sources of other income
5. How and when do the district faces food shortages
6. How is food stored
7. What are the Institution Constraints on food security
8. What are the Institutions between food insecurity/health/malnutrition
9. What are your particular recommendations to solve these problems.
10. What personal impression do you have on ORS run Men Program
11. What is the level of participation of beneficiaries in relation to men
12. What is tne impression of our men program at the community level.
13. What is your impression about CBHC.

MINISURVEY OF MOTHER PARTICIPANTS IN CRS/MCH CENTER

Date _____	MCH Center _____			Interviewers _____							
Mother Ref. No.	1	2	3	4	5	6	7	8	9	10	TOTAL
Ht: ab/b/bb											
MUAC: cm											
AnemRp/pk/pl											
Age (yrs)											
Edu: grade											
Religion											
Language											
Martl: m/mp/s											
OccupHusb											
SheEarns\$											
Demography											
NoLiveBorn											
NoAliveNow											
No Under5 Preg/lact. Particip DateStartP											
MosWaited (to be reg) AgeIndexCh											
HasYoungerCh											
DistToVill											
How well childGrows (herOpinion)											
ColrCnrtWhat Meaning?											
WomansGroup											
HerHstConfid											
Vacc: date											
Last Hgt Age last Hgt Wt last Hgt Present Wt Present WMS											

OBSERVATIONS

Summary Table
For Anthropometric Measurements

Region _____

Area _____

Name of ICH Center _____

S.No.	Age in months	Sex	Growth Pattern				Wt.	Present Nutritional Status		
			Positive	Negative	(Re recuperative)	Unknown		>60%	60-50%	<50%

77

16 NOV 92

FESSA MCH

Amsam G. Selassie

G = Graduated
 A = Absent
 D = Died
 M = Migrated

Nationals

45-107 Eye-Ease
 45-407 20/20 Bufl
 Made in USA

GROUP REF. NO.	INITIAL		1992 - 70 WEIGHT/A GE											1992			
	DATE OF ENTRY	AGE	WEIGHT (kg)	%WT/AGE	HEIGHT (cm)	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV.	SUMMARY PAT. Pos, Neg Recup, Imm
1465	3/91	12	25	208	72	X	X	X	X	A	X	X	X	X	X	X	I
1462	11/92	25	?	?	72	X	X	X	X	A	X	X	X	X	X	X	R
1466	6/90	4	60	1500	72	X	X	X	X	X	X	X	X	X	X	X	R
1472	4/92	19	?	?	72	-	-	-	X	X	X	X	X	X	X	X	R
1474	8/91	7	60	857	67	60	65	65	65	65	65	65	65	65	65	65	N
1480	1/89	5	47	940	65	90	85	85	85	80	80	80	85	85	80	80	P
1481	10/89	10	60	600	60	80	X	X	80	X	X	X	X	X	X	X	P
1483	10/4/92	11	?	?	72	-	-	-	65	A	X	X	X	X	X	X	I
1489	8/92	7	60	857	67	-	-	-	-	-	-	65	65	65	65	65	-
1490	8/92	14	70	500	67	-	-	-	-	-	-	65	60	65	65	65	-
1498	8/91	19	?	?	70	65	65	65	A	65	65	65	65	65	65	65	N
1499	9/91	19	?	?	70	X	X	X	X	X	X	80	80	80	80	80	I
1499	8/91	11	?	?	74	X	X	X	X	X	X	80	80	80	80	80	R
1500	8/91	12	?	?	68	60	60	60	60	60	65	65	60	60	65	65	N
1503	8/91	12	?	?	68	60	60	60	60	60	60	65	65	65	65	65	N
1502	8/91	5	?	?	63	X	X	X	X	X	A	X	X	X	X	A	I
1501	8/91	2	?	?	62	60	60	60	65	65	65	65	60	65	65	65	
1469	10/91	18	?	?	69	X	X	X	X	X	X	X	X	X	X	X	I
1464	2/91	5	?	?	58	X	X	X	X	X	65	X	X	X	X	X	I
1992	2/91																

53 =
 61.6.2