

PNAAS-301

39081

MATERNAL AND INFANT NUTRITION REVIEWS

HONDURAS

A Guide to the Literature

Compiled by

Ronald C. Israel - Senior Editor
Joanne P. Nestor Tighe - Editor and Reviewer
Janet Tognetti, Ellen Blumenstiel Taylor,
and Stephen Wirtz - Reviewers

December 1984

An International Nutrition Communication Service (INCS) Publication

Education Development Center, Inc.
55 Chapel Street, Newton, MA 02160 USA

INCS Advisory Board: Roy E. Brown, Derrick B. Jelliffe, E. F. Patrice Jelliffe,
Richard K. Manoff, Marian L. Tompson, R.R.N. Tuluhungwa, Joe D. Wray,
Marian F. Zeitlin

*This project has been conducted under Contract A.I.D./DSAN-C-0209, Project No. 931-1010.
Project Officer: Dr. Tina Sanghvi, Office of Nutrition - Science and Technology Bureau,
Agency for International Development, Washington, D. C.*

edc

CONTENTS

Introduction	1
MINR Classification System	iii
Map	iv
Table I: Locations Studied	v
Table II: Acronyms Used in this Report	vi
Review Highlights	vii
Review	1
Bibliography	47

INTRODUCTION

MATERNAL AND INFANT NUTRITION REVIEWS: A RESOURCE FOR NUTRITION PLANNERS AND EDUCATORS

The MATERNAL AND INFANT NUTRITION REVIEWS (MINR) profile existing data on nutritional status and nutrition-related beliefs and practices of mothers and children in developing countries. MINRs also contain information on current nutrition policies and programs of governments, the United States Agency for International Development, and other bilateral, international agencies and Private Voluntary Organizations (PVO). There are thirty-five MINRs in all, profiling forty-four different countries. (See list on next page.)

Maternal and Infant Nutrition Reviews summarize important information obtained from available literature, government documents, consultant reports, and personal correspondence. The data is presented in bulleted form under six major headings: nutrition and health status, dietary beliefs, dietary practices, nutrition status correlations, nutrition and health policies and programs, and commentaries. A bibliography at the back of each monograph describes the listed documents in terms of type of study, methodology, sample characteristics and location, and a summary.

Nutrition planners and policy makers can use MINRs to help identify a given country's data base. For example, the information contained in each review enables the reader to identify key planning factors such as problem areas of malnutrition, prevailing beliefs about breast feeding, the extent of bottle feeding, types of weaning foods, the government's inter-agency five-year nutrition plan, the amount of donated food being distributed at MCH centers, and major PVOs involved in administering food and nutrition programs.

MINRs can be used as background documents for consultants going into the field and for program developers in-country. They can provide a frame of reference for an in-country workshop aimed at developing a national nutrition strategy. Technical assistance in organizing a workshop of this kind is available through the International Nutrition Communication Service. MINRs can also be used as a resource document in the development of journal articles and textbooks.

MINR data is stored on a computerized word processing system that allows for updates and individualized literature searches on specific topics. Patterns in a particular country or group of countries can be analyzed in accordance with user needs. A nutrition information retrieval service is available free to those working in developing countries and for a small fee to all others. Orders, inquiries, and comments should be addressed to:

Ron Israel, Director
International Nutrition Communication Service
Education Development Center
55 Chapel Street
Newton, Massachusetts 02160, USA

MINR Country Reports:

AFRICA:

Cameroon
Gambia and Senegal
Ghana
Kenya
Lesotho
Liberia
Mali
Sudan
Tanzania
Zaire

NEAR EAST:

Egypt
Jordan
Morocco
Tunisia
Yemen

ASIA:

Bangladesh
Burma
India
Indonesia
Nepal
Pakistan
Papua New Guinea
Philippines
South Pacific*
Sri Lanka
Thailand

LATIN AMERICA AND CARIBBEAN:

Bolivia
Costa Rica
Dominican Republic
Ecuador
Haiti
Honduras
Jamaica
Panama
Peru

*South Pacific Region includes the nations of Cook Islands, Fiji, Kiribati, Solomon Islands, Tonga, Tuvalu, Vanuatu, and Western Samoa

MATERNAL AND INFANT NUTRITION REVIEWS

CLASSIFICATION SYSTEM

1. Nutrition and Health Status
 - 1.1 General
 - 1.2 Women, Pregnant
 - 1.3 Women, Lactating
 - 1.4 Infants 0-6 Months
 - 1.5 Infants 6-24 Months
2. Dietary Beliefs
 - 2.1 General
 - 2.2 About Pregnancy
 - 2.3 About Lactation
 - 2.4 About Breast Milk Substitutes (including bottle feeding)
 - 2.5 About Weaning
3. Dietary Practices
 - 3.1 General
 - 3.2 Women
 - 3.2.1 During Pregnancy
 - 3.2.2 During Lactation
 - 3.3 Infants 0-24 Months
 - 3.3.1 Breast feeding
 - 3.3.2 Weaning
 - 3.3.3 After Weaning
 - 3.4 Health and Medicine
4. Nutrition Status Correlations
5. Nutrition and Health Policies and Programs
 - 5.1 Policies
 - 5.2 Programs
6. Commentaries

HONDURAS

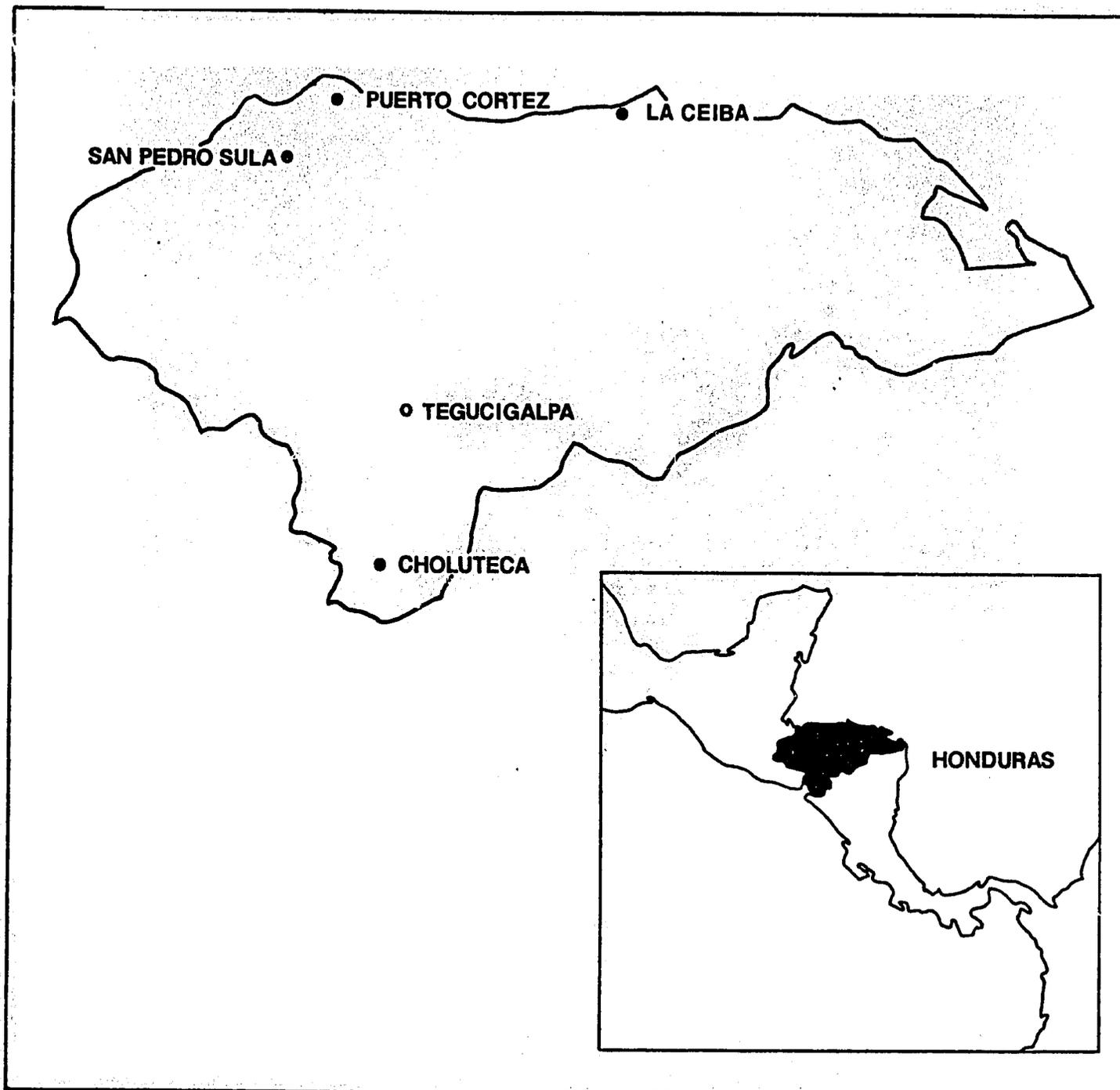


TABLE I
Locations Studied

	Brown, R. E., 1982	Comision Hondureña, 1980	O'Gara, C., 1984	U.S.A.I.D., 1980	U.S.A.I.D./Tegucigalpa, 1982
Norte		X		X	
Sur		X			
Occidente		X			
Oriente		X			
Danli				X	
San Pedro Sula		X		X	
Tegucigalpa	X		X	X	

TABLE II
ACRONYMS USED IN THIS REPORT

AED	Academy for Educational Development
CEDEN	Evangelical Committee for Development and National Emergencies
CESAMO	Centro de Salud con Medico (Health Center with Physician)
CESAR	Centro de Salud Rural (Rural Health Center)
CNAN	Consejo Nacional de Alimentacion y Nutricion (National Food and Nutrition Council)
COHAAT	La Cooperacion Hondureña Alemana Alimentos por Trabajo (Honduran-German Cooperation in Food-for-Work)
CONSUPLANE	Consejo Superior de Planificacion Economica (National Economic Planning Council)
CRS	Catholic Relief Services
EEC	European Economic Community
FFW	Food for Work
GOH	Government of Honduras
IHSS	Instituto Hondureño de Seguridad Social (Honduran Social Security Institute)
INA	Instituto Nacional de Agricultura (National Agrarian Institute)
INCAP	Instituto de Nutricion de Centro America y Panama (Nutrition Institute of Central America and Panama)
INCS	International Nutrition Communication Service
JNBS	Junta Nacional de Bienestar Social (National Board for Social Welfare)
MOH	Ministry of Health
MSP/AS	Ministerio de Salud Publica y Asistencia Social (Ministry of Public Health and Social Assistance)
ORT	Oral Rehydration Therapy
PAHO	Pan American Health Organization
PANI	National Foundation for Infants
PPM	Popular Promotion Movement
PROALMA	Proyecto en Apoyo de la Lactancia Maternal (Project to Support Breast Feeding)
PROCOMSI	Programas de Comunicacion Masiva a la Salud Infantil (Mass Media Programs in Child Health)
PVO	Private Voluntary Organization
SAPLAN	Sistema Analisis y Planificacion de la Alimentacion y Nutricion (National System for Nutrition Analysis and Planning)
SERN	Servicios de Educacion y Recuperacion Nutricional (Nutrition Education and Recuperation Units)
SVAN	Sistema de Vigilancia Alimentaria-Nutricional (Food and Nutrition Monitoring System)
UNHCR	United Nations High Committee for Refugees
USAID	U.S. Agency for International Development

HIGHLIGHTS

1. **NUTRITION AND HEALTH STATUS:** The most common nutritional deficiency is protein-calorie malnutrition in children under 5 years old. Other widespread problems are anemia in pregnant women and children (of both nutritional and parasitic origin) and vitamin A deficiency, particularly in young children. Although the average iron intake is adequate, iron absorption is low because of the large proportion of iron from vegetable sources. Goiter is found in 21% of women and 8.9% of men, well above the 10% problem-recognition level set by PAHO.

The infant mortality rate in 1981 was 103 deaths per 1000 infants, one of the highest rates in all of Latin America. The infant mortality rate is much higher for boys than for girls. The rural departments with the highest infant mortality rates are Copan, Lempira, and Colon. Malnutrition in some form affects 75% of the population under 5 years old.

2. **DIETARY BELIEFS:** Many mothers believe that foods are intrinsically "hot" or "cold" and that these qualities determine whether foods should be eaten under certain conditions. A mother's actions or emotions are believed to affect adversely the quality of milk by causing it to become heated or agitated, a phenomenon described as leche agitada. Most adults of both sexes agree that breast milk is the optimal food for infants. Colostrum, however, is often discarded because it is considered not "good" or "real" milk, but rather "witches' milk, pus, or weak milk." Breast milk is considered a product of a mother's blood. The most common reasons given for not breast feeding are perceived lack of breast milk and illness of the mother. The principal reasons given for bottle feeding are work outside the home, maternal illness, and breast feeding failure. 82% of mothers interviewed at a hospital in Tegucigalpa after delivery planned to give bottle feedings.

Almost all mothers understand that a child needs water during diarrheal episodes. However, most mothers believe that although children can drink over a liter of fluid per day, infants can not. Many mothers are reluctant to force dehydrated children to drink oral rehydration solution. They believe that lack of appetite is a symptom of empacho (stomach upset), which should be treated through purging.

3. **DIETARY PRACTICES:** The staple food is corn, prepared as tortillas, except in the North where the staple is rice and beans. The income level of 90% of the rural and 64% of the urban population is so low that it cannot afford to pay for an adequate diet. The supply of available calories in 1977 was 2,015 calories per person per day, or 89% of the amount estimated by FAO as necessary to meet requirements. The rainy months of April through August are the hungry season. The major export crops are bananas, coffee, sugar cane, and meat.

At 12 months of age at least 84% of rural infants in all regions are still breast fed, except in Norte where the rate is 68%. The most common age for discontinuing breast feeding is 1 to 3 months in Norte, but is 4 to 6 months in Sur and 7 to 12 months in Centro, Oriente, and Occidente. A chupon, a cotton rag soaked in herbs and honey, is often given to the neonate within the first day or so to purge the meconium. Bottle feeding is becoming widespread after the third month. Many mothers use supplemental bottles as a

convenience. Although 78% of mothers in Tegucigalpa and San Pedro Sula breast feed their newborns, 64% introduce cow's milk during the first months of life.

4. **NUTRITION STATUS CORRELATIONS:** Land tenure is the family factor most associated with the incidence of second or third degree malnutrition among young children; other associated factors (correlated with incidence of young child malnutrition) include households headed by females, illiterate mothers, and mothers with 3 or more children under 5 years old. The least accessible rural areas in terms of communications and services have malnutrition rates almost double those of more accessible rural areas. Younger mothers with more education and greater access to the advertising media tend to breast feed their infants for shorter periods and introduce the bottle earlier than older women with less education and little access to the communications media. In rural areas of Health Region 4 the rate of malnutrition (according to Gomez standards) is 18.8% among breast fed children 6 to 18 months old, and 22.2% among those not breast fed.

5. **NUTRITION AND HEALTH POLICIES AND PROGRAMS:** The Honduran Nutrition Plan for 1979-1983 proposes to improve the nutrition status of low-income families through increasing the availability of food crops, obtaining a better distribution of income, improving rural health care, promoting the nutrition education of the general population, and improving the efficiency of distribution of complementary foods. The Government of Honduras is providing \$1.8 million for nutrition planning over a four year period, as counterpart funds to a USAID loan. SAPLAN (Sistema Analisis y Planificacion de la Alimentacion y Nutricion) is the government organization charged with responding to problems of hunger and malnutrition. SAPLAN is a coordinating agency within the National Economic Planning Council (CONSUPLANE) and includes representatives from the Ministries of Health, Natural Resources, Social Welfare, Public Health, Social Security, Education, National Agricultural Institute, and Economic Planning. SAPLAN also assisted the National Food and Nutrition Council (CNAN), which has broad policy making-responsibilities in relation to food, nutrition, and related activities. Honduran law provides for 2 half-hour nursing breaks daily until a child is 6 months old and requires businesses with over 20 female employees to establish a nursery at the expense of the employer, but these laws are not enforced.

With AID and INCS assistance, SAPLAN is developing a nutrition education training program for workers in SAPLAN related agencies. SAPLAN also supervises a Maisoy (corn-soy-blend) supplementary food production project, a pilot nutrition surveillance project, and family food production. PROALMA (Proyecto en Apoyo de la Lactancia Maternal), a national agency created to assist in the reversal of trends away from breast feeding, also receives AID and INCS assistance. PROALMA's efforts will concentrate on education of health professionals, the development of mass media materials for the public, and a breast feeding resource center targeted to support the needs of urban area mothers. PROCOMSI (Programas de Comunicacion Masiva a la Salud Infantil) is a project to develop a mass media communications program dealing with the promotion of oral rehydration therapy and the marketing of a cheap oral rehydration preparation called Litrosol.

For fiscal year 1982, the approved quantity of PL-480 food for Honduras totaled 8300 metric tons of non-fat dried milk, soybean oil, wheat flour, wheat-soy blend, corn-soy milk, and rice worth 3.5 million dollars and distributed by CARE and CRS.

1. NUTRITION AND HEALTH STATUS

1.1 NUTRITION AND HEALTH STATUS, GENERAL

NATIONAL

NUTRITIONAL DEFICIENCIES: The most common nutritional deficiency is PEM in children under 5 years old; one estimate puts the incidence at over 70%. Other widespread problems are anemia in pregnant women and children (of both nutritional and parasitic origin) and vitamin A deficiency, particularly among rural children. A program to introduce vitamin A fortification of sugar was begun at the end of 1977. Deficiency of riboflavin has been reported. Goiter is a significant problem, but incidence is declining due to salt iodization. (Licross, 1979)

NUTRITION-RELATED CAUSES OF DEATH: Among the top 10 causes of mortality in 1976, diarrhea was first, causing 12.2% of all deaths; anemias, 1.8%; and measles, 1.5% of all deaths. (MSP/AS, 1979a)

MALNUTRITION AND HOSPITALS: Malnutrition is not listed as a major cause of death nor is it recorded as a major cause of hospital admissions, partially because it is mainly an outpatient disease, and partly because malnourished people who die or are admitted are frequently diagnosed as having some other disease, such as diarrhea or pneumonia. (U.S.A.I.D., 1980)

IRON INTAKE, ABSORPTION, AND STATUS: Although average iron intake is adequate, iron absorption is low because of the large amount of iron from vegetable sources. Thus, 32% of the rural population showed some iron deficiency. Rates were highest in women in their second or third trimester of pregnancy. (U.S.A.I.D., 1980)

GOITER: Goiter is found in 21% of women and 8.9% of men, well above the 10% problem level set by PAHO. Prevalence ranges between communities, from very low to 35%. (Wooley et al., 1972)

MAJOR HEALTH PROBLEMS: The major health problems of the country are diarrhea and malnutrition, malaria, and tuberculosis. (U.S.A.I.D., 1981)

COMMON ILLNESSES: Enteric diseases include amebiasis, typhoid, dysentery, bacillary dysentery, and hepatitis; the prevalence of enteroparasitic diseases is especially high in banana plantations, where pesticide poisoning is also a risk. Poliomyelitis is a persistent problem, as are rabies (dog-transmitted), encephalitis, and Chagas disease. Measles is apparently declining, probably because of the vaccination program. Malaria affects over 90% of the country, especially along both coasts, and there has been a recent upsurge. Transmission is year-round, except that there is no risk in urban areas, or above 1000 meters, and transmission is limited to May to December in Copan-Lempira, Olancho. (Licross, 1979)

DIARRHEA INCIDENCE AND SEASON: Incidence of diarrhea is highest in the rainy season, June to August, and during the cold months of October through December. (U.S.A.I.D., 1980)

1.1 NUTRITION AND HEALTH STATUS, GENERAL (Cont.)

DIARRHEAL DEATHS: Diarrheal disease is the leading cause of death for the country as a whole and for age groups up to 15 years. (U.S.A.I.D., 1980)

MALARIA: Malaria exists in about 90% of the country, containing about 87% of the population. The number of reported cases rose from 7,503 in 1974 to 34,606 in 1978, but malaria specialists believe that the actual number of cases may be five times that reported. Transmission is most serious in the low-lying north coastal areas and the South, where mosquitoes resistant to some insecticides are found. (U.S.A.I.D., 1980)

VULNERABLE POPULATION: Between 1975 and 1980, the number of children age 0 to 4 years increased 14% (from 588,288 to 668,992), and the number of pregnant women rose 12% (from 121,088 to 236,604), according to INCAP calculations. (Teller et al., 1979a)

AGE DISTRIBUTION OF DEATHS: In 1976, 22.9% of all deaths occurred among infants under 1 year old; 16.2% among children age 1 to 4 years; 6.6% among children 5 to 14 years; 16.3% among those age 15 to 44 years; only 38.0% of deaths occurred in adults over 45 years of age. (U.S.A.I.D., 1980)

1.2 NUTRITION AND HEALTH STATUS, WOMEN, PREGNANT

NATIONAL

MATERNAL MORTALITY RATE: The maternal mortality rate is 2.7 deaths per 1000 births. (MSP/AS, 1979c)

MATERNAL MORTALITY RATE: The maternal mortality rate in 1970 was 1.7 deaths per 1000 live births. (U.S.A.I.D., 1980)

1.3 NUTRITION AND HEALTH STATUS, WOMEN, LACTATING

1.4 NUTRITION AND HEALTH STATUS, INFANTS 1-6 MONTHS

NATIONAL

INFANT MORTALITY: "The infant mortality rate in Honduras is 117 per 1,000 live births, one of the highest in Latin America and the Caribbean. In rural areas, the mortality rate may rise as high as 138 per 1,000 live births." (CARE, CHANE Plan, 1984)

INFANT MORTALITY RATE: The infant mortality rate is 103 deaths per 100 infants, one of the highest rates in Latin America. (U.S.A.I.D., 1981)

INFANT MORTALITY RATE: In 1978, the infant mortality rate was 98.52 deaths per 1000 live births, according to CONSUPLANE. (MSP/AS, 1979a)

INFANT MORTALITY RATE: In 1976, the infant mortality rate was 115 deaths per 1000 live births. (Sivard, 1979)

INFANT MORTALITY RATE: In 1972, the overall infant mortality rate was 117 deaths per 1000 live births, according to the "Encuesta Nacional de Honduras" (EDENH). (MSP/AS, 1979a)

INFANT MORTALITY AND SEX: The infant mortality rate is much higher for boys, 139.1 deaths per 1000, than for girls, 92.1 per 1000. (U.S.A.I.D., 1980)

INFANT MORTALITY DECLINE: The infant mortality rate declined from 124.0 per 1000 in 1973-74 to 99.4 per 1000 in 1975 in a project area in Choluteca which relied mostly on extension of primary health care. (Teller et al., 1979b)

DIARRHEA DEATHS: 1,030 infants died from diarrheal dehydration in 1977, which accounts for 24% of all infant deaths and represents the single greatest cause of infant mortality in the nation. (A.E.D., 1980c)

DIARRHEA DEATHS: In 1976, diarrheal diseases were the leading cause of infant mortality, causing 22.5% of the deaths in this age group. (U.S.A.I.D., 1980)

RURAL

INFANT MORTALITY RATE: In 1972 the rural infant mortality rate was 127.2 deaths per 1000 live births, according to the "Encuesta Nacional de Honduras" (EDENH). (MSP/AS, 1979a)

INFANT MORTALITY RATE AND DEPARTMENT: The rural departments with the highest infant mortality rates were Copan (156 deaths per 1000), Lempira (141), and Colon (141). (U.S.A.I.D., 1980)

NEONATAL MORTALITY: The mortality rate in the first week of life is 67.6 deaths per 1000 live births. (U.S.A.I.D., 1980)

URBAN

INFANT MORTALITY RATE: In 1972, the urban mortality rate was 85.6 deaths per 1000 live births, according to the "Encuesta Demografica Nacional de Honduras" (EDENH). (MSP/AS, 1979a)

NEONATAL MORTALITY: The mortality rate during the first week of life is 33.9 deaths per 1000 live births. (U.S.A.I.D., 1980)

1.5 NUTRITION AND HEALTH STATUS, INFANTS 6-24 MONTHS

NATIONAL

CHILD MORTALITY RATE: In 1979, the mortality rate among children age 1 to 4 years was 14 per 1000; in 1960, the rate had been 32 per 1000. (World Bank, 1981)

CHILD MORTALITY RATE: The mortality rate in 1977 among children age 1 to 4 years was 14 deaths per 1000 children in this age group. (World Bank, 1980)

CHILD MORTALITY RATE: In 1970, the mortality rate among children age 1 to 4 years was 19.3 deaths per 1000 children in this age group. (Teller et al., 1979a)

1.5 NUTRITION AND HEALTH STATUS, INFANTS 6-24 MONTHS (Cont.)

MALNUTRITION: Malnutrition in some form affects 75% of the population under 5 years old. (U.S.A.I.D., 1981)

MALNUTRITION: The percentage of children under five years of age who were moderately or severely malnourished rose from 29.5% in 1966 to 40% in 1976, and "there is no reason to expect the situation to have radically improved." (CARE, CHANE Plan, 1984)

MALNUTRITION: Among 8 studies reported since 1976, rates of moderate to severe malnutrition ranged from 8% in Siguatepeque to 49% in Nueva Ocotepeque. (Stanfield et al., 1979)

NUMBERS OF MALNOURISHED CHILDREN: There were about 330,000 malnourished children age 0 to 4 years in 1965 and about 490,000 in 1975. If the trend were to continue, there will be 650,000 malnourished children by 1985. This would represent an increase of 320,000 malnourished children in 20 years, or a virtual doubling of this high-risk population. (U.S.A.I.D., 1980)

RATE OF MALNUTRITION: The rate of malnutrition in children under 5 years old increased in all categories between the 1966 national survey and 1977. In 1977, 43% of the children had first degree malnutrition; 32%, second degree; and 6%, third degree. In 1966, the rates had been 42.8%, 27%, and 2.7%, respectively. (MSP/AS, 1979a)

MALNUTRITION: Although no national nutrition survey has been done since 1966, several studies done between 1972 and 1978 in various locations found deficiencies. Weight for age in children under 5 years old ranged between 57% and 91% of normal. Prevalence of second and third degree malnutrition ranged from 8% to 46% of children under 5. (U.S.A.I.D., 1980)

RURAL

CHILD DEATHS: The mortality rate among children age 1 to 4 years is 22.6 deaths per 1000 children, with significant regional differences: the highest rate, in the West, is 33.7 per 1000; the lowest rate, in the South, is 11.9. (U.S.A.I.D., 1980)

DIARRHEA: Diarrhea is the most common children's disease; virtually all mothers were able to describe the stages of the disease and could distinguish between pictures of well and ill children. Thirty-three local names for diarrhea were identified, and 27 terms applicable to dehydration. (Booth et al., 1980)

DIARRHEA AND SEASON: June through August is sometimes called the "critical time" or the "month of the sick ones," as well as being the hungry season. Diarrhea prevalence peaks during this period, with another increase in November and December. (Booth et al., 1980)

URBAN

CHILD MORTALITY RATES: The mortality rate among children age 1 to 4 years is 10.5 deaths per 1000 children. (U.S.A.I.D., 1980)

2. DIETARY BELIEFS

2.1 DIETARY BELIEFS, GENERAL

RURAL

HOT AND COLD FOODS: Many mothers believed that foods were intrinsically "hot" or "cold," and that these qualities determined whether foods should be eaten under certain conditions. For example, meat was believed "cold" and therefore unsuitable for children with diarrhea. (A.E.D., 1980b)

HOT AND COLD FOODS: Honduran mothers categorized foods as "hot" or "cold" by their presumed effects on health rather than their actual temperature or energy content. More foods were considered cold than hot. Cold foods included salt, sugar, lemonade, banana, pineapple, avocado, milk, and butter. Mothers were divided on whether frijoles (beans) were hot or cold. The majority felt that vegetable oil was cold, but a significant number classified it as hot; more than half considered lard to be hot. Hot or cold, vegetable oil was considered easier for children to digest. (Booth et al., 1980)

2.2 DIETARY BELIEFS, ABOUT PREGNANCY

2.3 DIETARY BELIEFS, ABOUT LACTATION

NATIONAL

VALUE OF BREAST FEEDING: Most adults of both sexes agreed that breast milk was the optimal food for infants. It is generally accepted that breast fed babies are more healthy. (U.S.A.I.D./Tegucigalpa, 1982)

REASONS FOR NOT BREAST FEEDING: The most common reasons for not breast feeding were lack of breast milk and illness of the mother. (Comision Hondureña, 1980)

BREAST FEEDING: Breast feeding was perceived as traditional behavior. Young mothers did not breast feed as much as their mothers, partially because breast feeding was believed to ruin the figure, causing breasts to sag. (Booth, 1983)

COLOSTRUM: Colostrum is apparently discarded because it is considered not "good" or "real" milk, but rather "witches' milk, pus, or weak milk." (Brown, 1982)

COLOSTRUM: Older women believe colostrum to be bad or useless and discard it even when they move from rural to peri-urban areas. Younger mothers do not share this belief, and so they do breast feed during the earliest stages of lactation. (Brown, 1982)

MILK AND MOTHER'S BLOOD: Breast milk is considered a product of the mother's blood. There is also a belief that about 6 months postpartum there is a weakening of the mother's blood, as the milk becomes somewhat less full. For these reasons, weaning may occur at around the age of 6 months. (Brown, 1982)

2.3 DIETARY BELIEFS, ABOUT LACTATION (Cont.)

WET NURSING: A mother will not breast feed another mother's male child if her own child is female, because it is believed that milk produced for a boy is "too strong" for a girl. (Brown, 1982)

DIARRHEA: The loose yellow stools normal for a breast fed baby may be considered diarrhea. (Brown, 1982)

MILK AND WORMS: It is widely held that breast milk and certain other foods may disturb intestinal worms normally present in a resting state and thereby cause an episode of diarrhea. (U.S.A.I.D./Tegucigalpa, 1982)

RURAL

BREAST IS BEST: All mothers agreed that breast milk was the best milk. Many said that breast fed children grew more quickly and are healthier and stronger. Some mothers believed that breast milk was protection against illness; breast milk was the "sangre de la madre," the blood of the mother, which is passed on and gives strength to the child. Other mothers said they breast fed because they could not afford anything else. (Booth et al., 1980)

BREAST MILK: Most mothers surveyed believed breast milk was the best milk, but that breast and bottle feeding were even better. The reasons given for this were: breast milk alone is not sufficient in quantity or quality, an infant must learn to eat early or he will be difficult to teach later on, rural women believed that their diet made them produce less milk than urban women. (Booth, 1983)

BREAST FEEDING: Only 31% of the rural mothers surveyed believed that breast feeding was more "nutritional." However, 42% felt that breast feeding was more natural and traditional. 23% of mothers breast fed because there was "nothing else" to give to their child (probably because they did not have the money to buy any type of supplemental food such as a can of milk or powdered milk). (Suazo et al., 1981)

BREAST MILK AND WARMING: Mothers believed that an infant's internal body temperature is lower than an adult's. In the hot and cold system of food classification, breast milk is considered to have a warming effect. As the infant grows older, his body temperature stabilizes but still drops during the day, so "cold" foods, such as eggs, should not be given late in the day. (Booth et al., 1980)

REASONS FOR WEANING: Among rural mothers in the regions of Norte, Sur, and Occidente, the most common reasons for weaning were another pregnancy (31% of all mothers), illness of the mother or child (23%), lack of milk (15%), work (6%), and use of contraceptives (2%). (Comision Hondureña, 1980)

REASONS FOR WEANING—ORIENTE: Among rural mothers in the region of Oriente, the most common reason given for weaning was the age of the child (44% of all mothers); the next most common were another pregnancy (26%), lack of milk (12%), work (5%), illness of the child (5%), illness of the mother (4%), advice of medical personnel (2%), and child refused

the breast (1%). No mother cited use of contraceptives as the reason. (Comision Hondureña, 1980)

PHYSICIANS' ATTITUDES: The development process for the ORT campaign found that most physicians not only did not support breast feeding but many were actively supporting bottle feeding. (A.E.D., 1981(#3))

URBAN

BOTTLE VS BREAST: Breast feeding is still considered the best infant food, and mothers who give it up completely in the early months are criticized unless they can convince the community that an overwhelming medical necessity or persistent marital problem forced them to stop nursing. (O'Gara, 1982)

REASONS FOR BREAST FEEDING: In response to the question of why they breast fed, two-thirds of the urban mothers surveyed (66%) felt that "mother's milk" was more "nutritional"; 25% of this group believed that breast feeding was the "traditional" and "natural" way of feeding children. (Suazo et al., 1981)

FOOD FOR MILK PRODUCTION: There is a recognition that certain foods, particularly chocolate from certain rural areas and oatmeal, are good for milk production, and of course there are many foods which mothers should avoid. (O'Gara, 1982)

FOODS AFFECT BABY: Although the foods a mother eats are presumed to affect a nursing baby, this did not appear to affect the decision to provide bottles. (O'Gara, 1982)

FLUIDS: Although there is little recognition of the nursing mother's need to eat more, there is a growing awareness that nursing mothers must drink more. This belief appears to be related to the advice given out by health professionals. (O'Gara, 1982)

REASONS FOR WEANING: Among urban mothers in the regions of Norte, Sur, and Occidente, the most common reasons for weaning were lack of milk (40% of mothers), mother's illness (27%), another pregnancy (14%), child's illness (8%), work (8%), and use of contraceptives (4%). (Comision Hondureña, 1980)

REASONS FOR WEANING--ORIENTE: Among urban mothers in Oriente region, the most common reason given for weaning was the age of the child (31% of all mothers); the next most common reasons were another pregnancy (18%), child refused the breast (13%), lack of milk (11%), illness of child (8%), work (8%), illness of mother (6%), and use of contraceptives (6%). No mothers gave medical advice as their reason. (Comision Hondureña, 1980)

LECHE AGITADA (HEATED MILK): Mothers' actions or emotions can adversely affect the quality of the milk by causing it to become heated, or agitated. Actions include physical exertion, including excursions out of the house, or making tortillas. The blood becomes heated, circulates above and through the breasts, and passes heat to the milk. Emotional

2.3 DIETARY BELIEFS, ABOUT LACTATION (Cont.)

factors include anger, upset, or participation in an acrimonious discussion such as a disagreement with a spouse or a negative encounter with a stranger. (O'Gara, 1982)

SUPPORT FOR BREAST FEEDING: The ideal behavior for avoiding leche agitada is for a woman to stay close to home, not interact with strangers, and do little except take care of the children. Fathers in stable unions are therefore often the greatest proponents of breast feeding, since this encourages their wives to be docile and stay at home. Mothers-in-law are also supporters of this situation when the mother is within her husband's family. (O'Gara, 1982)

LECHE AGITADA AND LIFESTYLE: Urban women are not able to live the restful, low-key lives of rural women. By choice, they have come to the city, where they are constantly faced with situations which cause leche agitada. For choosing to enter such an environment, they are sanctioned in a symbolic and very concrete way: this lifestyle causes leche agitada; they have elected to ruin their own breast milk and make it harmful to their babies. They can be good mothers only by supplying a modern remedy to this breast milk failure: bottle feeding. Using bottles, mothers can maintain their status as good mothers and stay in the city. (O'Gara, 1982)

REMEDIES FOR LECHE AGITADA--PHYSICAL CAUSES: Leche agitada is a passing phenomenon. A woman who has become overheated through exertion need only drink something cool and rest, for anywhere from a few minutes to several hours depending on the degree of heating and the custom of the individual, to be ready to breast feed, with the quality of her milk assured. She still considers herself and is considered a breast feeding mother as long as her baby takes the breast. (O'Gara, 1982)

REMEDIES FOR LECHE AGITADA--EMOTIONAL CAUSES: Leche agitada caused by emotional stress is less easily cured than that from physical causes. There is much disagreement over remedies, and in several cases women have stopped nursing completely, claiming that their babies vomitted or were cranky or had loose stools for more than several days. Weaning makes mothers more dependent on their men, but reveals to the public cases where men are accused of causing leche agitada through abuse of the mother. (O'Gara, 1982)

2.4 DIETARY BELIEFS, ABOUT BREAST MILK SUBSTITUTES

NATIONAL

REASONS FOR BOTTLE FEEDING: The principal reasons stated by mothers for introducing bottle feeding are work outside the home, maternal illness, and breast feeding failure. Increasing numbers of mothers are working outside the home, especially in urban areas. Increased access to radio and television in the towns and cities contributes to the acceptance of convenience. (U.S.A.I.D./Tegucigalpa, 1982)

RURAL

MILKS: Asked the best food for children, the most common response was milk; the best milks were: cow, 45%; breast, 31%; and powdered, 9%. (Booth et al., 1980)

URBAN

REASONS FOR INTRODUCING BOTTLE: 82% of mothers interviewed at the hospital after delivery planned to give bottle feedings. Their reasons for introducing supplemental foods at an early age included: to accustom the baby to other foods, to provide additional nutrients, to permit the mother to work, and to compensate for breast milk failure. (U.S.A.I.D./Tegucigalpa, 1982)

REASONS FOR BOTTLE FEEDING: The staff at the IHSS hospital in San Pedro Sula investigated the motives for which mothers failed to continue breast feeding and introduced bottles and mixed feeding prematurely. The reasons they identified included: contradictory messages from health providers; suspension or discouragement of breast feeding by doctors and nurses; distribution of free infant formula and whole milk; lack of support for lactating mothers; and growing sociocultural resistance to breast feeding in the community. (U.S.A.I.D./Tegucigalpa, 1982)

STATUS OF BOTTLE FEEDING: A woman giving bottle feedings in addition to the breast and invoking leche agitada is demonstrating that she is overworked, overburdened, and without adequate community support to be a perfect, breast feeding mother. Second, she is demonstrating that she is successful enough to acquire bottles and formula, either through her own work or through other sources of support. Thus, this action provides her with some sympathy. (O'Gara, 1982)

2.5 DIETARY BELIEFS, ABOUT WEANING

2.6 DIETARY BELIEFS, ABOUT ILLNESS AND CURE

NATIONAL

DISEASE CONCEPTS: Disease is seen as a result of some "outer condition" which may involve not only natural but supernatural powers, acting in conjunction with "inner conditions" of the body which may include bodily or psychological weakness, hot or cold physiological state, or other anatomical and physiological states. (U.S.A.I.D., 1980)

VALUE OF SERVICES: Villagers spend large amounts of money on traditional practitioners, pharmacies, and private practitioners, because they perceive the free medicines of the MOH auxiliary nurses to be ineffective. They do not have a welfare mentality, do not believe that the government owes them free medical services, and consequently believe that free medicines are worthless, according to an anthropological study of the rural population. (U.S.A.I.D., 1980)

2.6 DIETARY BELIEFS, ABOUT ILLNESS AND CURE (Cont.)

RURAL

EFFECTS OF HOT AND COLD FOODS: Cold foods can cause diarrhea, stomach aches, and respiratory problems in children; they should not be given when children are ill because they aggravate the illness. (Booth et al., 1980)

FOODS BAD FOR INFANTS: When asked which foods could make an infant sick, mothers said frijoles (beans) caused diarrhea and belching; fruits could cause diarrhea, malaria, stomach ache, and unusual stools; fried rice; and potatoes. Mothers seemed to feel that fried foods in general were hard for infants to digest and could cause illness. When asked about mixtures which were bad, most mothers agreed that cow's milk mixed with various foods could make an infant ill. Milk served with an acidic fruit was said to cause vomiting. Some mothers said milk with banana, flour, chocolate, eggs, meat, or soup could "ruin the stomach" or cause vomiting or diarrhea. (Booth et al., 1980)

FOODS BAD FOR CHILDREN: When asked what foods were bad for children, parents said none (15%), beans (56%), beef and pork (31%), fruit (20%), and milk (27%). (Booth et al., 1980)

FOODS BAD FOR CHILDREN: Among 31 foods which mothers said their children disliked, rice and spaghetti were mentioned most often. Rice was believed to be too cold or too heavy, to cause diarrhea, and to be especially bad for children with worms. Mothers felt that the older children could eat almost anything an adult could unless they were sick or becoming sick. Mothers also stressed the importance of a child's eating on time and not eating too much at one time. (Booth et al., 1980)

CHILDREN'S FOOD NEED: Mothers believed that children had to eat when they became hungry; if they stayed hungry too long, they would become ill when fed. Children should not be given too much at once, or that also would make them ill. (Booth et al., 1980)

CHILD'S ILLNESS AND FEEDING: Mothers understand that children with diarrhea need to eat to prevent malnourishment and weakness. They feel that breast milk is the best food under these circumstances, but some said that doctors had prohibited any feeding. Mothers also believed that breast milk could cause illness under several conditions, including agitation, fright, eating certain foods (notably avocado), pregnancy, or feeding too long after the child first becomes hungry. Such milk can cause diarrhea, vomiting, or fever. (Booth et al., 1980)

FOOD DURING DIARRHEA: Asked what foods should be given to a child with diarrhea, parents' answers included cheese (20%), milk (21%), soup (15%), eggs (8%), atoles (11%), and tortillas (5%). Asked what foods would make the diarrhea worse, they said no foods were harmful (8%), beans (44%), milk (38%), eggs (15%), fruit (20%), and meat (44%). (Booth et al., 1980)

FOODS TO AVOID DURING ILLNESS: Among the foods not to give a sick child, all mothers agreed that meat should not be given. Others mentioned frijoles (but not frijole soup), milk, eggs, avocado, and oil or fried foods. (Booth et al., 1980)

CAUSES OF ILLNESS: When parents were asked why children became ill, most responses gave modern answers: water, food, malnutrition, insects, hygiene, and weakness, in that order. (Booth et al., 1980)

WATER AND ILLNESS: Mothers related the rainy season to the diarrhea season but did not seem to have any widespread explanation for the two occurring together. (Booth et al., 1980)

PARASITES, DIARRHEA, AND PURGING: Many rural mothers believed that at the beginning of the rainy season, the parasites and amoebas which had been dormant began moving about the children's bodies. Therefore, many mothers seasonally purged their children in April or May, at the height of the rainy season. (A.E.D., 1980a)

DOCTORS AND DIARRHEA: Local doctors recommended fasting and withdrawal of breast milk during bouts of diarrhea. (Booth et al., 1980)

DOCTORS AND DIARRHEA: Most physicians advocated withdrawal of food during bouts of diarrhea. Many were using antibiotics to treat childhood diarrhea. (A.E.D., 1981(#3))

MOTHERS' PERCEPTIONS OF DIARRHEA: Diarrhea is considered a normal occurrence in a young child's life. Appropriate treatment is generally considered necessary only when the diarrhea is perceived to be abnormal. (Booth et al., 1980)

MOTHERS' PERCEPTIONS OF DIARRHEA: Mothers used the terms desinteria and basilar to refer to severe cases of diarrhea, but their criteria for what constituted a severe case were generally lax. Frequently, severe cases were not perceived as serious enough to receive treatment. None of the mothers treated their children before the child had had diarrhea for at least three days. (Booth et al., 1980)

CAUSES OF DIARRHEA: Most mothers believed that diarrhea was caused by worms, improperly prepared food or bottles, the wrong food, and unboiled water. Mothers also made a strong distinction between healthy and unhealthy foods and those which can cause diarrhea. (Booth et al., 1980)

WORMS: There is a general belief that everyone has worms. Normally, the worms are stable in the stomach, but the worms may "turn over" and become active during the rainy season or if one eats too much fruit. Treatments are used to make the worms return to their natural positions in the stomach so that they can be purged with a second treatment. (Booth et al., 1980)

DIARRHEA AND WORMS: Diarrhea is believed to have been caused by worms if it is accompanied by symptoms such as bloated stomach, stomach ache, cold feet, dark circles under the eyes, sleeping with eyes opened, the grinding of teeth, and waking suddenly and uncontrollably in the middle of the night. Diarrhetic children who have worms lose control and become confused. (Booth et al., 1980)

DIARRHEA AND VOMITING: Diarrhea was considered very serious if accompanied by vomiting; this was seen as life-threatening. There was no

2.6 DIETARY BELIEFS, ABOUT ILLNESS AND CURE (Cont.)

known remedy, but mothers mentioned special foods and 29 special teas, which were thought to have a calming effect on the stomach, to stop the vomiting. Mothers also believed that the teas would nourish the child. (Booth et al., 1980)

DIARRHEA AND FLUIDS: Almost all mothers understood that a child needs water during diarrheal episodes; only two said a child should not drink water because it would increase the diarrhea. (Booth et al., 1980)

MEDICAL PROFESSIONALS AND ORT: Some doctors and nurses said that oral rehydration therapy was useless; others only saw it as an inferior alternative to the usual therapy, intravenous rehydration, which is expensive and not widely used. (A.E.D., 1981(#2))

FLUID CONSUMPTION: Most mothers believed that although children could drink over a liter of fluid per day, infants could not. The proposed oral rehydration program planned to instruct mothers to give a liter of fluid per day. (Booth et al., 1980)

CHILDREN'S APPETITES: Mothers were reluctant to force dehydrated children to drink the oral rehydration solution. They believed that lack of appetite was a symptom of empacho (stomach upset); other symptoms are gas, fever, headache, knots behind the ears and arms, one eye being smaller than the other, and constipation or diarrhea. The treatment for empacho includes purging, even if diarrhea is a symptom, because it "opens the appetite." (Booth et al., 1980)

INFANT ILLNESSES: The local traditional medical system diagnoses most infant disease, especially if related to the gastro-intestinal tract, as the fault of the mother, either for not protecting the child (for example, from an "aire" or "ojo"), for eating improperly, or for engaging in "hot" activities. (O'Gara, 1982)

CAUSES OF VOMITING AND DIARRHEA: A child with vomiting and diarrhea will be diagnosed as suffering from the effects of leche agitada if his mother is known to have been behaving in ways which lead to this condition and to have breast fed without taking adequate precautions to cool down the milk. Thus leche agitada is a presumed condition, diagnosed only after a child is sick. (O'Gara, 1982)

HEALTH CARE PREFERENCES: Asked where they would go for health care if they had the money, low-income men (44% of sample) and women preferred: private doctor (37%), "Materno Infantil" (20%), pharmacy (12%), and the health center (7%). The remainder apparently did not specify. (Booth et al., 1980)

ATTITUDES TOWARDS MEDICAL SYSTEM: The medical system is very hierarchical. Any treatment suggested for rural clinics which is not practiced in central facilities is considered second-class medicine, and the word quickly spreads to the patients. (Booth et al., 1980)

MEDICAL TREATMENT PREFERENCES: Rural health concepts were influenced by modern medical practices. Injections were preferred over pills, pills

over liquids, and commercial medicines over herbal teas. Most mothers associated sophistication with effectiveness. (Booth et al., 1980)

GERM THEORY: Traditional and modern beliefs about disease causation are integrated, with mixed effects. Germ theory, for example, is integrated with traditional beliefs related to spirits over which mothers feel they have limited power. Animalitos are tiny animals such as worms and parasites over which mothers may believe they have little control. (Booth et al., 1980)

GARIFUNA HEALTH BELIEFS: The Garifuna, Blacks of the North Coast, believe that disease is externally caused and is not the fault of the individual involved. It is a misfortune brought on by malevolent spirits, jealous dead ancestors, or living enemies, or occasionally natural forces. Curative measures include, as a consequence, not only medicines to eliminate the symptoms but also magical rites to remove the basic cause of the disease. (U.S.A.I.D., 1980)

3 DIETARY PRACTICES

3.1 DIETARY PRACTICES, GENERAL

NATIONAL

DIET: The staple food is corn, prepared as tortillas, except in the North, where it is rice and beans. Rice consumption is increasing, as is wheat, especially in the cities, where bread is increasingly popular. Other foods include starchy staples such as plantains, cassava, and potatoes; sweet potatoes and yams; kidney beans (frijoles rojos); fats such as cottonseed oil and coconut oil; fruit, including citrus, bananas, mangoes, avocados, pineapples, papayas, and guavas; and vegetables in small quantities, including tomatoes, onions, carrots, squash, and pumpkins (green leafy vegetables are disliked). Meat, milk, and eggs are eaten mainly in towns; overall consumption is very low. The main meats eaten are beef and pork, with some poultry and goat. The main condiments are garlic, chile pepper, and coriander. Sugar cane in the form of unrefined brown sugar is widely used. There is poor acceptance of wheat and wheat derivatives requiring special preparation, and of canned foods. (Licross, 1979)

STAPLES: In 1974, the total amount of corn available for consumption was 76.5 kg. per person, or 209.6 grams per person per day. Available beans, the other major staple, were 10.3 kg. per person for the year, or 28.2 grams per person per day. (MSP/AS, 1979c)

MAIZE: Maize was the chief food crop, accounting for 43% of all crop lands. (Woolley et al., 1972)

ETHNIC GROUPS: 95% of the population is mestizo. Most of the remainder are blacks who arrived from other Caribbean areas. There are also four small Indian groups, scattered in different areas of the country and no longer distinguishable by their clothing or language, although they do have distinctive social organizations. (U.S.A.I.D., 1980)

INCOME CONSTRAINTS: The income level of 90% of the rural and 64% of the urban population is so low that it cannot afford to pay for an adequate diet or private medical services, even if they were accessible otherwise. (U.S.A.I.D., 1980)

FOOD COSTS: Between 1966 and 1979, the daily cost of the basic diet of a six-person family increased 129% (from 3.51 lempiras per day to 8.05). In addition, the structure of the diet had changed; it contained relatively more cereals and less meat, fat, and egg than in 1966. (U.S.A.I.D., 1980)

AGRICULTURE: In 1979, 63% of the labor force was engaged in agriculture, as was 70% in 1960. (World Bank, 1981)

FOOD PRODUCTION: During 1966-1970, per capita food production increased 2.4%, but in 1970-75, it decreased 1.4%. (FAO, 1977)

3.1 DIETARY PRACTICES, GENERAL (Cont.)

PRODUCTION: Over 1970-77, agricultural production increased by 1.0 to 1.9% per year. (FAO, 1979)

EXPORT CROPS: The major export crops were bananas, coffee, sugar cane, and meat. Bananas for export were grown chiefly on the plantations of the United Fruit Company and the Standard Fruit and Steamship Company. (Wooley et al., 1972)

NUTRITION AND WATER: Poor quality and low quantities of water negatively affect nutritional status indirectly because water-washed diseases and particularly diarrhea lead to a loss of ingested nutrients. (CARE, CHANE Plan, 1984)

NUTRIENT DEFICITS: At least 80% of the population have diets deficient in at least one of the following nutrients: vitamin A, riboflavin, folate, iron, and iodine. (Wooley et al., 1972)

VITAMIN A INTAKE: Diet studies in 1966 showed that 50% of the population consumed less than 20% of the recommended amount of vitamin A. (U.S.A.I.D., 1980)

PROTEIN AND CALORIE SUPPLIES: In 1976, per capita supplies were 54 grams protein and 2,074 calories per day. (Sivard, 1979)

PROTEIN AND CALORIE SUPPLIES: In 1972-74, per capita supplies averaged 2052 calories (91% of requirement) and 52.1 grams protein per day. 38% of the population (1,075,000 people) had calorie intakes below the "critical limit." (FAO, 1977)

CALORIE SUPPLY: The supply of available calories in 1977 was 2,015 calories per person per day, or 89% of the amount estimated by FAO as necessary to meet requirements. (World Bank, 1981)

PROTEIN SUPPLIES: Production figures indicated that the supply of available protein met 90% of the population's needs. On the north coast, Hondurans eat much more fish, while elsewhere they eat more black beans. In cities, dietary protein deficiency is more common. Much protein, as beef, is exported. (Wooley et al., 1972)

CALORIE AND PROTEIN INTAKES OF THE POOR: The poorest 50% of the population have an average daily intake of 1,465 calories and 33 grams of protein per person. INCAP recommends intakes of 2,000 to 2,500 calories and 50 to 70 grams of protein. (MSP/AS, 1979c)

CALORIE AND PROTEIN INTAKES AND INCOME: In 1975, average intake for the nation as a whole was 2250 calories per person per day, 104% of the estimated requirement, but for the 50% of the population in the low income group, the average daily intake was 1465 calories, 68% of the requirement. For protein, average intake was 55.8 grams, 102% of the requirement, but intake in the low income group was 33.3 grams, 61% of the requirement. (U.S.A.I.D., 1980)

CALORIE AND PROTEIN INTAKES AND INCOME: In 1970, the average intake was 2,250 calories, 104% of the necessary level, and 55.8 grams of protein,

102% of the requirement, but this intake was unevenly distributed. The upper income strata all had intakes above average, reaching 312% of protein requirements in the top 5% of the income range. The 50% of the population in the low-income group consumed only 1,465 calories, 68% of the requirement, and 33.3 grams of protein, 61% of the requirement. (MSP/AS, 1979c)

CALORIE DEFICITS: Among a national sample of 323 families, 34% had calorie intakes at least 25% less than the recommended intake; only 1/3 of the families consumed 100% or more of the recommended intake. (MSP/AS, 1979c)

CALORIE DEFICITS: In 28 municipalities studied, only 29% of the population consumed at least the recommended level of 2,172 calories per day. (MSP/AS, 1979c)

CALORIE INTAKE: A government analysis of the INCAP National Nutrition Survey data found that 71% of the families studied were not meeting the recommended average intake of 2,172 calories per day per person. (Cox and Weissman, 1979)

RURAL

FOOD VARIETY: The families observed each had an average of 15 foods, not including condiments. Only nine foods were observed in the poorest home visited. Household staples included tortillas, coffee, sugar, vegetables oils, eggs, frijoles, rice, cuajada (cheese), cow's milk, and seasonal fruits. This selection may be increased somewhat after the harvest. Most food was acquired through cash purchase. (Booth et al., 1980)

HUNGRY SEASON: The rainy months of April through August are also the hungry season, because the corn has been planted but not yet harvested, and last year's supply is dwindling. "Everything is expensive, foods are scarce, and the children don't eat on time." (Booth et al., 1980)

FAMILY FOOD DISTRIBUTION: Mothers distributed the food in most of the households observed. Children were fed first, even if fathers were hungry; mothers said children must be fed when they are first hungry or they will become ill. Children under 1 1/2 years old were assisted, but many older children were not helped at all. (Booth et al., 1980)

NUTRIENT INTAKES: Among 2337 persons in 331 rural families studied in 1966, average calorie intake was 1,832 (89% of the level recommended by INCAP); protein, 58 gm. (108%); calcium, 883 mg. (166%); iron, 15.5 mg. (152%); vitamin A, 0.384 mg. (34%); thiamin, 0.89 mg. (109%); riboflavin, 0.79 mg. (64%); niacin, 10.3 mg. (75%); and vitamin C, 59 mg. (130%). (MSP/AS, 1979c)

VITAMIN INTAKES: Among 323 rural families studied by INCAP in 1966, 83% consumed less than half the required amount of vitamin A, and 42%, less than half the required riboflavin. (MSP/AS, 1979c)

3.2 DIETARY PRACTICES, WOMEN

3.2.1 DIETARY PRACTICES, WOMEN DURING PREGNANCY

3.2.2 DIETARY PRACTICES, WOMEN DURING LACTATION

RURAL

AVOIDING LECHE AGITADA: A mother diagnosed as having leche agitada will adopt behaviors conducive to avoiding the condition. The message is to "slow down, put your feet up, stay around the house, tell your spouse not to upset you or the baby will get sick, take it easy and know that the people around you will probably support this decision and help you to carry it out." In isolated areas women, their kin, and their community have little choice if babies are to prosper. Breast feeding must be successful, and leche agitada must be avoided. (O'Gara, 1982)

URBAN

AVOIDING LECHE AGITADA: To avoid overheating their milk and making the babies ill, mothers are supposed to avoid strenuous activity and emotional disruption. Nursing mothers know the limitations on their activities, and so does the whole community. Thus, women have community support for taking it easy during lactation, but are blamed for negligence if the child develops illnesses attributable to leche agitada. (O'Gara, 1982)

LECHE AGITADA AND FATHERS: Since physical stress can cause leche agitada, a woman will claim this condition if her husband is abusing her. This study found three cases (out of 60 studied) where confirmed wife abusers abruptly stopped upon the birth of an infant. The woman who does not nurse because her spouse maintains her--and her breast milk--in a state of continuous agitation is making a very strong and public statement about the conditions of her life. (O'Gara, 1982)

3.3 DIETARY PRACTICES, INFANTS 0-24 MONTHS

3.3.1 DIETARY PRACTICES, INFANTS 0-24 MONTHS, BREAST FEEDING

NATIONAL

PRELACTAL FEEDS: A "chupon," a cotton rag soaked in herbs and honey, is given to the neonate within the first day or so to purge the meconium, which is considered bad. (Brown, 1982)

COLOSTRUM: Older women believe colostrum to be bad or useless and discard it even when they move from rural to peri-urban areas. Younger mothers do not share this belief, and so they do breast feed during the earliest stages of lactation. (Brown, 1982)

PREVALENCE OF BREAST FEEDING--NORTH: In the North, only 60% of infants were still breast fed at the age of 12 months, and only 25% at 18 months. (Comision Hondureña, 1980)

RURAL

PREVALENCE: The proportion of infants in rural areas still breast fed was 97% at 3 months, 90% at 6 months, 83% at 12 months, 54% at 18 months, 20% at 24 months, and 7% over 24 months, according to a study of 305 children conducted by CONSUPLANE, Departamento de Nutricion. (Comision Hondureña, 1980)

PREVALENCE BY REGION: At 12 months of age, at least 84% of infants in all regions were still breast fed, except in Norte, where the rate was 68%. At 18 months, the average was 54%, and all regions were above 47% except Norte, where the rate was 21%. (Comision Hondureña, 1980)

PREVALENCE AND DURATION--DANLI: 90% of mothers reported that they breast fed their babies. Average duration was 8 months, but 52% of the women had weaned their infants within the first 6 months. (U.S.A.I.D./Tegucigalpa, 1982)

WEANING AGE BY REGION: The most common age for weaning in Norte was 7 to 12 months (47% of all infants ever breast fed), but in Sur equal numbers were weaned between 7 and 12 months and 13 to 18 months (37% in each range). In Centro, Occidente and Oriente, more children were weaned at 13 to 18 months; in Occident, this represented 54% of all infants ever breast fed. For the group as a whole, 17% were weaned at 0 to 6 months, 29% at 7 to 12 months, 34% at 13 to 18 months, 13% at 19 to 24 months, and 7% at over 24 months. (Comision Hondureña, 1980)

INCONVENIENCE OF BREAST FEEDING: Women did not generally carry small children on their backs, so they spent a great part of the day holding small children in their arms. This presented a serious inconvenience, and the temptation to put a child down with a bottle was enticing. (Booth et al., 1980)

URBAN

PREVALENCE: A PROALMA survey of families of 950 infants in Tegucigalpa found that about 96% of newborns were breast fed initially, and that the rates were 70% at 3 months, 50% at 6 months, and 30% at one year. (O'Gara, 1984)

PREVALENCE: 78% of mothers in Tegucigalpa and San Pedro Sula breast fed their newborns. (U.S.A.I.D./Tegucigalpa, 1982)

PREVALENCE: The proportion of infants in urban areas throughout the country being breast fed at specific ages was: 3 months, 96%; 6 months, 77.9%; 12 months, 64%; 18 months, 31.2%; 24 months, 11.8%; and over 24 months, 0.8%, according to a study of 253 children conducted by CONSUPLANE, Departamento de Nutricion. (Comision Hondureña, 1980)

PREVALENCE BY REGION: At 6 months of age, over 70% of infants were still breast fed in urban areas of all provinces except Norte, where the rate was 48%. By 12 months, however, rates were still above 70% in the Centro and Oriente regions, but had dropped to 67% in Occidente, 43% in Sur, and 33% in Norte. (Comision Hondureña, 1980)

3.3.1 DIETARY PRACTICES, INFANTS 0-24 MONTHS, BREAST FEEDING (Cont.)

WEANING AGE BY REGION: The most common age for discontinuing breast feeding was 1 to 3 months in Norte, but was 4 to 6 months in Sur and 7 to 12 months in Centro, Oriente, and Occidente, according to a study of 253 infants conducted by CONSUPLANE. (Comision Hondureña, 1980)

3.3.2 DIETARY PRACTICES, INFANTS 0-24 MONTHS, WEANING

NATIONAL

FIRST FOODS: Foods given as first foods to at least 10% of infants in at least one region included: egg (21% of total); soups (14%); beans, as soup or puree (13%); rice (12%); fruits (9%; 18% in Centro, 16% in Occidente, 12% in Norte); processed foods (5%; 10% in Norte and Sur); and bread (3%; 18% in Occidente). (Comision Hondureña, 1980)

AGE AT SUPPLEMENTATION: 26% of infants received supplementary feeds by age 3 months; another 39% received food by 6 months. By 12 months, almost all children had received supplemental foods, except for 15% in Oriente, where 12% still had not received supplements by the age of 15 months. (Comision Hondureña, 1980)

RURAL

CHILD FEEDING PATTERN: The general pattern of child feeding, by age, was: up to six months, breast fed exclusively; 6 to 12 months, breast fed and given a selection of foods from the family pot; 12 months, family foods; after 24 months, adult diet. (Booth et al., 1980)

BREAST FEEDING: More than 90% of the rural women surveyed in this study (regardless of age, education, working conditions, or number of children) had breast fed their last child. Approximately four out of five urban mothers breast fed. The breast feeding incidence among working mothers (76%) and those with four or more years of education (78-75%) was slightly smaller. (Suazo et al., 1981)

COW'S MILK: Although 95% of rural mothers breast fed their most recent child, 54% introduced cow's milk during the first month of life. (U.S.A.I.D./Tegucigalpa, 1982)

BOTTLE FEEDING: Bottle feeding is becoming widespread, especially after the third month. Although mothers agree that breast is best and recognize the benefits of breast milk, many use supplemental bottles as a convenience. (Booth et al., 1980)

REASONS FOR BOTTLE FEEDING: Mothers who bottle fed despite their belief that breast was best admitted that convenience was their principal motivation. Since small children had to be carried and held for breast feeding, the opportunity to put the child down with a bottle was enticing. (Booth et al., 1980)

WEANING FOODS: The most commonly mentioned weaning foods were beans (28%), milk (20%), eggs (20%), rice (17%), cheese (16%), and soup (16%). (Booth et al., 1980)

WEANING FOODS AND AGE: Mothers said they introduced weaning foods, usually from the family pot, at an average age of 6 months; only one child was seen to receive only breast milk at 9 months of age. Weaning foods included frijole soup, tortillas, cow's milk, cheese, and powdered milk, all of which are also sources of contamination and infection. (Booth et al., 1980)

BREAST VS. BOTTLE: In the rural areas only 38% of the mothers used a milk supplement. It was also observed that in the rural regions, younger women (age 15-29 and the better educated ones (four or more years of primary education)) were more prone to use supplementary foods in the diet of their children. (Suazo et al., 1981)

WEANING FOODS HYGIENE: Storage of weaning foods for several hours, and even up to three days, was common. Reheating was not a common practice, partly because of constraints of time and fuel. Although the value of boiling water was acknowledged, there was little practice of water boiling. (Booth et al., 1980)

URBAN

COW'S MILK: Although 78% of mothers in Tegucigalpa and San Pedro Sula breast fed their newborns, 64% introduced cow's milk during the first month of life. (U.S.A.I.D./Tegucigalpa, 1982)

BOTTLE FEEDING: A survey of mothers in the two major public hospitals in Tegucigalpa showed that although 97% breast fed their newborns, 65% also introduced some form of bottle feeding while still in the hospital. 86% of the mothers planned to bottle feed their infants during the first week of life; four-fifths expected to do so on a daily basis. Follow-up of these mothers found that after only 3 months, 95% bottle fed their infants, principally with cow's milk, fruit juice, tea, or water, and only 64% were still breast feeding. No children remained whose breast feeding was not supplemented with at least an occasional bottle. (U.S.A.I.D./Tegucigalpa, 1982)

REASONS FOR INTRODUCING BOTTLES: Excluding mothers who introduced bottles when they began working outside the home, many mothers gave their babies the first bottle of substitute milk in order to avoid harming the infant with leche agitada, "agitated" or "hot" milk. This is a focus on the quality of the milk, not quantity, although decreased quantity later becomes a concern as a closed circle of lessened sucking and lower breast milk production begins. (O'Gara, 1982)

FATHERS' SUPPORT: No father was found to provide extra funds or food for the nursing mother or child, but most will provide a nursing bottle or bottles, a thermos for water if they are able, and milk powder or the money to buy it. Since formula for a three-month-old costs \$5.00 per week, this constitutes a grand demonstration of the father's ability to provide for his family, and also gives the mother a great deal of economic control. Also, the father is freed from the burden of hurting his child (through leche agitada) if he abuses or upsets his wife. (O'Gara, 1982)

3.3.3 DIETARY PRACTICES, INFANTS 0-24 MONTHS, AFTER WEANING

RURAL

COMMON FOODS: The foods most often given to young children (under 18 months old) included potato, tortilla, pataste (a squash-like vegetable), and frijole soup. Most mothers said they gave the foods once a day, although some said two or three times a day. There was generally no strict schedule for feeding; children were often given a portion of whatever the mother was eating. (Booth et al., 1980)

FOODS NOT GIVEN: Among the foods not given to children under 18 months old were snack foods such as soda, popsicles, and cheese curls; certain fruits, including avocado; and refried frijoles. (Booth et al., 1980)

CHILD NUTRIENT INTAKE DEFICITS: Preschoolers in low-income families had intakes at least 50% below the recommended levels of calories, retinol (vitamin A), riboflavin (vitamin B₂), and niacin (vitamin B₃), according to a study by Flores (1977). Even high-income children's average intakes of these nutrients and iron were below recommended levels. (Alvarado, 1979)

3.4 DIETARY PRACTICES, HEALTH AND MEDICINE

NATIONAL

TRADITIONAL MEDICINE: Traditional curers include the midwife, who also treats children's diseases; the herbalists; and the shaman, who can be either a curer or a causal agent of disease. Treatment of disease relies heavily on herbs and magical devices and rites to remove the basic cause of the disease, which may be an inner or an outer condition, or both. (U.S.A.I.D., 1980)

ATTITUDES TOWARD MODERN MEDICINE: In reconciling traditional and modern health systems of beliefs and cures, the rural mestizo population accepts some elements, rejecting others, and modifying others. In general, those practices that are accepted relate to curing illnesses that are severe and incapacitating. The traditional practices are maintained for preventive or chronic diseases, since the benefits of modern medicine in these areas are harder to demonstrate. (U.S.A.I.D., 1980)

SOURCE OF HEALTH CARE: The number of health centers has grown from 16 in 1958 to over 400 today, yet over half of the population has no access to health services except folk medicine. Only 28% have access to Ministry of Health services, and 17% use social security and private practitioners, available only to those with income, such as urban wage-earners. (U.S.A.I.D., 1980)

ACCESS TO HEALTH CARE: Because of the isolation, economics, and attitudes of the public, only 55% have access to the current public health system. To reach the rest is not simply a matter of expanding the existing system. (MSP/AS, 1979a)

RURAL

FEEDING CHILDREN DURING ILLNESS: Mothers did not stop breastfeeding sick children, including those with diarrhea; only one mother stopped giving solid foods. Some mothers stopped giving powdered and fresh cow's milk. Solid foods and supplemental foods may be discontinued if the diarrhea is perceived as particularly serious. (Booth et al., 1980)

RESPONSE TO ILLNESS: Mothers follow a basic pattern of treatment, no matter what or how severe the sickness. First, a personal diagnosis of the symptoms; second, treatment with familiar remedies; third, consultation with other women--relatives, friends, and neighbors. If these do not work, help is sought from the traditional and modern health professionals: local healers, the auxiliary, and, finally, doctors. (Booth et al., 1980)

TREATING ILLNESS: Mothers' actions during children's illness differed from what they had said they would do. Although mothers said that a child with severe diarrhea would be taken to the health center or given home or commercial medicines, they were observed to actually apply commercial remedies, including antibiotics and purges, and herbal remedies which were available in the community. The few mothers who did use the health center did so only after the diarrhea had lasted several days without responding to home remedies. Interviews indicated that diarrhea is so ordinary an occurrence that treatment is often ignored. (Booth et al., 1980)

HERBAL REMEDIES: Most non-commercial remedies are composed of herbs, fruits, grasses, and bark grown in garden plots or found in the wild. They are often prepared by steaming or boiling the ingredients, and administered as a liquid by spoon. The amounts, usually a half-cup per day, are not adequate to compensate for the loss of fluids through the diarrhea. Remedies were also administered as plasters and unctions. (Booth et al., 1980)

WATER: Although mothers believed that boiling water was an important measure in protecting health, most did not do so on a regular basis. This dissonance is probably because of constraints of time and fuel. (A.E.D., 1980c)

HEALTH CLINICS AND DIARRHEA: If a mother takes a child with diarrhea to the local health center, she will probably be told to stop breast feeding and giving other foods to her child. Also, the medical community makes wide use of kaolin to satisfy the patient's need to stop or firm up loose stools. The kaolin being used contains neomycin, which is known to cause diarrhea and is definitely counter-indicated in most cases. (A.E.D., 1980c)

DIARRHEA REMEDIES: Diarrhea was seen both as an illness in itself and the result of some other illness. Treatment was often related to perceived cause. If it was thought, for example, that the diarrhea was caused by empacho (general stomach upset), then a sobador (masseur) was used; if breast milk was thought to be the cause, breast feeding was stopped; if parasites were involved, medication was sought. Mothers

3.4 DIETARY PRACTICES, HEALTH AND MEDICINE (Cont.)

generally tried to treat the diarrhea at home and sought medical help only if the child were seriously ill; many mothers waited until very late in the episode before seeking help. (Booth et al., 1980)

FOODS DURING DIARRHEA: Mothers reported that foods good for children with diarrhea included rice water, frijole soup, tortillas, and cuajada (cheese). A few mothers mentioned oral rehydration solution. Among the 34 types of food and drinks mentioned by the mothers were also: five types of juice, six aguitas, commercial bottled oral rehydration solution, sodas, eleven types of soup, six types of mush, eggs, and rice. (Booth et al., 1980)

DIARRHEA AND STOMACH UPSET: Empacho (general stomach upset) symptoms include loss of appetite, gas, fever, headache, knots behind the ears and arms, one eye being smaller than the other, and constipation or diarrhea. A child with empacho is taken to a sobador (traditional healer), who diagnoses and prescribes by massaging or feeling the child's pulse. The treatment involves purging, which is believed to "open the appetite," so mothers will purge if diarrhea is diagnosed as a cause of empacho. (Booth et al., 1980)

URBAN

BANCOS DE LECHE: "Bancos de Leche" (literally, milk banks) are run by the Ladies' Auxiliary of the Honduran Medical Association; the members are doctors' wives. They wear white coats and given the entire operation an air of respectability and medical approval. These banks are found at most urban health centers, usually next to the nutrition rehabilitation center if there is one, and are open for several hours per day. They sell Nestle milk powders, infant cereals, and soups discounted slightly from supermarket prices. (O'Gara, 1984)

FORMULA AND HOSPITAL: At the Hospital Materno-Infantil in Tegucigalpa is the "Banco de Leche," in which there was a small room in the hospital where Nestle's formula is sold at a discount. There is apparently some support for the hospital provided by Nestle. (Brown, 1982)

4. NUTRITION STATUS CORRELATIONS

NATIONAL

MALNUTRITION AND LAND TENURE: Among 600 rural and semi-urban families, the family factor associated with the highest relative risk of finding a second or third degree malnourished child (age 6 to 59 months) was land tenure. The risk was about twice as high for families with less than two manzanas of land than for those with 10 or more. (U.S.A.I.D., 1980)

MALNUTRITION CORRELATES: Among 600 rural and semi-urban families, the risk of finding a second or third degree malnourished child (age 6 to 59 months) in a family was significantly higher in households headed by females, or having illiterate mothers and mothers with closely spaced younger children (3 or more children under 5 years old). The rural area that was least accessible in terms of communication and services had rates almost double those of more accessible rural areas of similar population. (U.S.A.I.D., 1980)

INFLUENCES ON BREAST FEEDING: Several studies have shown that younger mothers with more education and greater access to the advertising media tend to breast feed their infants for shorter periods and introduce the bottle earlier than older women with less education and little access to mass communication media. There appears to be little correlation between infant feeding practices and family size or income. (U.S.A.I.D./Tegucigalpa, 1982)

GROWTH AND INCOME: A CONSUPLANE survey of 1650 school children in 1976 concluded that among girls aged 6 to 14 years, both weight for age and height for age were lower in moderate and low income groups. Females age 7 years in the high-income group averaged 6.8 cm. taller than those in the low-income group. By age 14, the gap was 14 cm. The difference in weight was 3.5 kg. at 7 years, and 8 kg. at 13 years. (Cox and Weissman, 1979)

CHILD MORTALITY AND SOCIOECONOMIC STATUS: The mortality rate among children age 1 to 4 years is 24.7 deaths per 1000 children in the lower socioeconomic strata, but in the higher income group, the rate is 7.3. (U.S.A.I.D., 1980)

MORTALITY AND MOTHER'S EDUCATION: Children under two years of age whose mothers had no schooling were five times as likely to die (mortality rate 171 per 1000) as those whose mothers had ten or more years (35 per 1000). (U.S.A.I.D., 1980)

MORTALITY CORRELATES: Mortality rates are higher in rural areas, among men, in the Western part of the country, in the lower socioeconomic groups, and in families where mothers have relatively less education. (U.S.A.I.D., 1980)

RURAL

MALNUTRITION AND ARTIFICIAL FEEDING: The rate of malnutrition (according to Gomez standards) was 18.8% among those breast fed and 22.2% among

4. NUTRITION STATUS CORRELATIONS (Cont.)

those not breast fed, according to a study of 175 rural children age 6 to 18 months in Region 4. (Comision Hondureña, 1980)

HEALTH CONCEPTS AND ACCESS TO CARE: Physical isolation was the variable most strongly related to mothers' giving unscientific (traditional) explanations for the cause of diarrhea. Mothers at sites with easy access were more likely to give scientific reasons. Population, health area, presence of a community health worker, or even the presence of a health center did not affect the traditional/scientific conceptualization. (Booth et al., 1980)

URBAN

MALNUTRITION AND ARTIFICIAL FEEDING: The rate of malnutrition was 32.8% in infants not breast fed, and 18.1% among infants who were breast fed, according to a study of 133 urban children age 6 to 18 months in Region 4. (Comision Hondureña, 1980)

5. NUTRITION AND HEALTH POLICIES AND PROGRAMS

5.1 NUTRITION AND HEALTH POLICIES AND PROGRAMS, POLICIES

NATIONAL

NUTRITION PROGRAM ADMINISTRATION: The former Department of Nutrition, which has been a part of the Division of Maternal Child Health, has been elevated to the status of a Division. This new division of Nutrition in the Ministry of Health will oversee food distribution programs, using MOH health centers as distribution points. This division, however, will not assume the full range of responsibilities formerly allocated to SAPLAN, which has been disbanded, and will not assume SAPLAN's planning function. Thus, Honduras has no designated nutrition planning or coordinating authority. (O'Gara, 1984)

CHANGING NUTRITION PRIORITY: Nutrition received higher priority in the National Plan for 1979-83 than in the previous 5-year period, when there was a single volume for health, food, and nutrition. In the later plan, nutrition received a special policy and planning volume of its own, and little specific nutrition planning was evident in the health volume. Most aspects of preventive medicine (vaccination, checkups, environmental sanitation, etc.) are still considered to fall within the health sector, but there is recognition of the complex nature of the causes of malnutrition, and the need to involve many sectors, including economic, agriculture, and education. SAPLAN itself is one manifestation of the government's recognition of this situation. (Stanfield et al., 1979)

NATIONAL FOOD AND NUTRITION COUNCIL: The Council (CNAN) was created and charged with formulating government policy for food, nutrition, and related activities. In 1976 the First Operating Plan for Food and Nutrition was produced. SAPLAN, a multidisciplinary division of the Council, is responsible for the development of a national system to analyze and plan nutrition programs. (U.S.A.I.D., 1979)

NUTRITION NEEDS: To tackle the problem of widespread malnutrition, it is necessary, among other things, to increase the availability of food crops, obtain a better distribution of income, improve rural health care (both preventive and curative), promote the nutritional education of the general public, and improve efficiency in the distribution of complementary foods, according to the National Plan for Food and Nutrition for 1979-1983. (Alvarado, 1979)

NUTRITION PLAN: The Honduran Nutrition Plan proposes to improve the nutrition status of low-income families through specific nutrition interventions and through the analysis and modification, as required, of sectoral plans and programs in order to improve their nutritional impact. (U.S.A.I.D., 1979)

NUTRITION PLANNING: In the Strategy for the Implementation of the Food and Nutrition Plan of the National Plan for Development for 1979-83, it is suggested that SAPLAN help "reorient all the existing food distribution programs so that they truly contribute to improving food consumption levels of the more vulnerable groups." SAPLAN must coordinate their

5.1 NUTRITION AND HEALTH POLICIES AND PROGRAMS, POLICIES (Cont.)

activities and serve as the depository and source of information for all the supplementary feeding programs in the nation. SAPLAN's involvement in the feeding programs is a high priority of SAPLAN as well as USAID. (Stanfield et al., 1979)

NUTRITION PLANNING BUDGET: The Government of Honduras is providing \$1.8 million for nutrition planning over a four-year period, as counterpart funds to a USAID loan. (U.S.A.I.D., 1979)

NUTRITION POLICY: The National Health Plan for 1979-1983 includes the objective of establishing a system of nutrition surveillance for early detection of malnutrition. (MSP/AS, 1979a)

BREAST FEEDING POLICY: In October 1981, the Maternal and Child Health (MCH) division of the Ministry of Health presented an outline entitled "Plan of coordinated action for the promotion of maternal lactation and the improvement of infant nutrition" to a multi-disciplinary, multi-institutional group, which agreed that a national program should be developed as quickly as possible. MCH accepted responsibility, and a team of two MOH officials drafted a national proposal. The proposal was submitted to MCH in February 1982, but has not yet been acted upon. (U.S.A.I.D./Tegucigalpa, 1982)

BREAST FEEDING WORKSHOP: In March 1980, Honduras hosted an international workshop for 45 participants from the nations of Central America and Panama, the result of which was a consensual document entitled "Guide for Maternal Lactation Promotion and Better Maternal Infant Nutrition." The Ministry of Health of Honduras accepted the recommendations, but they have never been implemented in a meaningful or coordinated manner. The concepts from the workshop were used as the basis of the PROALMA project. (U.S.A.I.D./Tegucigalpa, 1982)

FOOD CONTROL POLICY: The National Health Plan gives a high priority to the program for regulating public food supply hygiene; there were 70 people in this department in 1978, and a staff of 166 was projected for 1983. (MSP/AS, 1979a)

NUTRITION GOALS: The National Health Plan addresses the need to decrease the incidence of deficiencies of vitamin A, iron, and iodine, and to provide special care for vulnerable groups, women and children, especially in rural areas. Implementation methods include: improving education and recuperation services (SERN - Servicios de Educacion y Recuperacion Nutricional) and community nutrition centers, providing training for nutrition personnel, promotion of breast feeding, prompt detection and treatment of malnutrition in children, iron supplements for pregnant women and high-risk children, investigation of iodine fortification of salt in areas where goiter incidence is high, improved nutrition in hospitals, fortification of sugar with vitamin A, encouraging and developing nutrition education in schools, and increasing the activities of the food control division. (MSP/AS, 1979b)

NUTRITION ADMINISTRATION: Nutrition programs do not exist per se. Nutrition is one of the high-priority activities of the personal-care component of the health hierarchy, so all general health promotion

activities, especially at the community level, are supposed to include attention to provision of adequate nutrition care. The National Health Plan for 1979-83 focuses on development of general health facilities and staff. (MSP/AS, 1979a)

NATIONAL FOOD AND NUTRITION COUNCIL: The 1966 GOH-INCAP nutrition survey focused attention on nutrition and was followed by national seminars and the creation of the National Food and Nutrition Council (CNAN). (U.S.A.I.D., 1980)

SAPLAN: SAPLAN (Sistema Analisis y Planificacion de la Alimentacion y Nutricion) is the government organization charged with responding to hunger and malnutrition, especially in rural and "marginal urban" areas, and in multisectional planning and programming. It includes representatives from the Ministry of Public Education, the Ministry of Natural Resources, the Ministry of Public Health, the National Social Security organization, the National Agricultural Institute, and, as coordinator, the Technical Secretary of CONSUPLANE (Consejo Superior de Planificacion Economica). Planning and coordination among these different components of the government helps assure that the multifactorial nature of hunger and malnutrition is addressed effectively. SAPLAN is specifically responsible for describing and analyzing the nutrition situation and determining priorities for determining interventions. (CONSUPLANE, 1976)

SAPLAN: SAPLAN was formed in February, 1976 in response to needs identified in the nutrition evaluation of late 1975; one recommendation had been the integration of the various sectorial nutrition-related activities. (CONSUPLANE, 1976)

NUTRITION PLANNING UNIT—SAPLAN: The government has formed a nutrition planning unit, SAPLAN, mandated to formulate a national nutrition strategy. SAPLAN was to be involved initially with the evaluation of current and proposed nutrition interventions, including feeding programs, including the ongoing PL-480 programs operated by CARE and CRS. The goal was to integrate these established programs as parts of a comprehensive national nutrition plan. (Food for Peace, 1978)

SAPLAN: In 1976 the National System for Nutrition Analysis and Planning (SAPLAN) was established within the National Economic Planning Council (CONSUPLANE). It includes representatives of the Ministry of Health, Ministry of Education, Ministry of Natural Resources, the National Agrarian Institute (INA), and the IHHS, within the Department of Nutrition of CONSUPLANE and its technical council. Each institution has a representative who works within the SAPLAN core staff for the purposes of policy definition; planning; coordination of institutional interventions; evaluation of policies, plans, and interventions; and stimulation of research and training in food and nutrition. (U.S.A.I.D., 1980)

SAPLAN REPRESENTATIVES: SAPLAN includes representatives from the Ministries of Health, Natural Resources, Social Welfare, Public Education, Natural Resources, Social Welfare, Public Education, National Agrarian Institute, and Economic Planning. These representatives serve to coordinate their respective institutions in both the planning and implementation processes. (U.S.A.I.D., 1979)

5.1 NUTRITION AND HEALTH POLICIES AND PROGRAMS, POLICIES (Cont.)

COORDINATION OF NUTRITION: In early 1976, CONSUPLANE created a new department called "Departamento de Alimentacion y Nutricion" within its Global Planning Office. This Department acts as the administrative link between CONSUPLANE and SAPLAN. The coordinator of SAPLAN also functions as the chief of the Departamento de Alimentacion y Nutricion in order to link directly these two agencies. (Stanfield et al., 1979)

SAPLAN--TECHNICAL ASSISTANCE: Technical assistance for SAPLAN is provided by CARE, CRS, United Nations Agencies, and INCAP (Instituto de Nutricion de Centro America y Panama) as well as U.S.A.I.D. (Stanfield et al., 1979)

SAPLAN AND MINISTRY OF PUBLIC EDUCATION: In coordination with SAPLAN, the Ministerio de Educacion Publica is responsible for disseminating nutrition messages; the emphasis is on maternal and infant themes. There was a campaign at the national, regional, and local levels between 1977 and early 1979, but the results are not yet published. The Ministry also is cooperating with the Ministry of Health to develop a series of posters promoting breast feeding. (Comision Hondureña, 1980)

MINISTRY OF NATURAL RESOURCES: The Ministerio de Recursos Naturales, through its Promotores de Desarrollo Comunal (Community Development Workers), carries out extension work, including household improvement and feeding infants using local resources. (Comision Hondureña, 1980)

A.I.D. AND SAPLAN: A.I.D. not only helped establish SAPLAN, but it has also provided continuing support for SAPLAN's efforts to acquire necessary personnel and get the organization functioning. SAPLAN's goal of reaching the poor as a principal target group corresponds well with the Mission's strategy of helping Honduras achieve economic growth with relative equity, through programs targeted to the poor and oriented to helping the poor satisfy their basic human needs. (Stanfield et al., 1979)

BREAST FEEDING LEGISLATION: The law provides that a breast feeding mother shall have a break each day long enough to breast feed her child, for the first 6 months. In addition, employers who hire more than 20 women must provide a suitable place for feeding their children up to three years old. (Comision Hondureña, 1980)

LEGISLATION ENFORCEMENT: Although laws regarding nursing breaks and day care centers are on the books, they are not effectively enforced. (O'Gara, 1984)

NURSING BREAKS: The law provides for 2 half-hour nursing breaks daily until the child is 6 months old. These breaks are over and above any rest periods and are remunerated. All undertakings must establish nursing premises, and if there are over 20 female employees they must provide a nursery at the expense of the employer. (Richardson, 1975)

PUBLIC HEALTH MOTTO: The Ministry of Public Health's motto is "Salud deber y derecho de todos" (Health is everyone's duty and right). (MSP/AS, 1979a)

HEALTH POLICY: Since the first national plan in 1974, a high priority has been placed on providing water and waste disposal services and basic health care coverage for all people, emphasizing the poor and particularly mothers and children. Programs to prevent sickness and promote health have been developed with these orientations and have met with considerable success. More important, these programs are continuing to be implemented and refined. (U.S.A.I.D., 1980)

HEALTH GOALS: The Ministry of Public Health has broadly defined Honduras' health goals with considerable emphasis on maternal-infant health problems. These goals call for a significant reduction in the incidence of diarrheal diseases, malaria, and tuberculosis, and for increased emphasis on the reduction of vaccine-preventable disease through mass immunization. (U.S.A.I.D./Tegucigalpa, 1982)

PUBLIC HEALTH PRIORITIES: In the National Health Plan for 1979-1983, highest priority is given to basic sanitation, malaria vector control, and food inspector controls and laboratories. Mid-level priority is given to housing, vectors other than malaria, and occupational hygiene; low priority is given to air-quality control. (MSP/AS, 1979a)

MCH PRIORITIES: The highest priorities for maternal and child health discussed in the National Health Plan are prevention of diarrhea, nutrition education, and vaccinations. (MSP/AS, 1979a)

HEALTH SYSTEM ORIENTATION: Although the health system is becoming oriented to preventive care and community organization, the change from traditional curative and hospital-oriented care is not automatic. There is still a strong orientation in that direction, but changes are occurring. Budgets and other support have increased in the areas of prevention and promotion, and health service coverage is increasing through the use of non-traditional health workers. (U.S.A.I.D., 1980)

HEALTH POLICY IMPLEMENTATION: Although health care professionals did not oppose the policy formed in 1974 which emphasizes preventive and rural-oriented care, they have done little to implement it. Medical training is still oriented towards lucrative private urban practice. Most practitioners are unprepared for the new approach, and the administrative structure of the public health sector institutions is not geared to it. (U.S.A.I.D., 1980)

PHYSICIANS: In 1976 there were about 900 physicians, one per 3,495 persons. (Sivard, 1979)

HOSPITAL COSTS: Of the monies spent on hospitals, 65.4% is spent on the 5 national hospitals, 24.8% on the 6 regional hospitals, and 9.8% on the area hospitals. (MSP/AS, 1979a)

HEALTH EXPENDITURES: In 1976, public health expenditures were U.S. \$33 million (US\$10.04 per capita). (Sivard, 1979)

HEALTH EXPENDITURES: In 1972, the government spent U.S. \$6 per capita on health. (World Bank, 1981)

5.1 NUTRITION AND HEALTH POLICIES AND PROGRAMS, POLICIES (Cont.)

MINISTRY OF HEALTH BUDGET: The Ministry of Health budget has risen rapidly in the last few years, but now has reached only U.S. \$16.00 per year per man, woman, or child which it should be serving. (U.S.A.I.D., 1980)

HEALTH EXPENDITURES: The percentage of Central Government expenditures allocated to the Ministry of Health has grown steadily, from 7.9% in 1972 to 11.1% in 1980. The actual expenditure rose during the same period from 21 million lempira to 124 million. (Shepard and Overholt, 1980)

HEALTH EXPENDITURES—ALLOCATIONS: In 1978 the Ministry of Health budget was spent as follows: curative care, 58%; preventive care, 40%; and administration, 2%. In 1969, the proportions were 58%, 31%, and 11%, respectively. (Shepard and Overholt, 1980)

MINISTRY OF HEALTH BUDGET PRIORITIES: Since 1974, the MOH has been increasing the proportion of the budget allocated to primary health care (clinics and preventive activities). In 1974, the MOH spent only 15 cents in primary care for every dollar spent in hospital care; by 1978 the rate had increased to 46 cents per dollar. (U.S.A.I.D., 1980)

5.2 NUTRITION AND HEALTH POLICIES AND PROGRAMS, PROGRAMS

NATIONAL

SAPLAN ACTIVITIES: Under the first five year plan (1974-78), SAPLAN, with the assistance of AID, initiated a series of projects, including aquaculture, soya and sorghum production and consumption, rural water and waste disposal, nutrition surveillance, income and consumption surveys, nutrition, and family food production projects. Under the second Five Year Plan (1979-83), SAPLAN is continuing its evolution and development into a meaningful nutrition institution. (U.S.A.I.D., 1980)

SAPLAN NUTRITION TRAINING: SAPLAN, with assistance from U.S.A.I.D. and INCS, has developed a nutrition education training program for workers in SAPLAN agencies, including a support manual, a course with guides which will include non-formal techniques and nutrition, and visual materials to use in community nutrition. Long-range program goals include provision of continuing education and non-formal techniques for field workers in the various institutions which participate in SAPLAN, and for them to include nutrition in their community development activities. (Birker, 1981)

SUPPLEMENTARY FOOD—SAPLAN: The National Plan for Food and Nutrition describes the local production of Maisoy (a corn-soy blend) as a project of top priority, basically because there is a strong desire to produce a low-cost food so formulated as to supplement the Honduran diet with its most deficient nutrients. A mix of 70 parts corn to 30 parts soy was found acceptable by over 80% of mothers and children. Although the major targets of the supplementary program are young children and pregnant and nursing women, the first groups to receive the foods will be school children, who are easier to reach. Maisoy will be fortified with iron and thiamin. (Alvarado, 1979)

NUTRITION MONITORING: A pilot nutrition surveillance project, SVAN (Sistema de Vigilancia Alimentaria-Nutricional), has been developed to help SAPLAN meet its goal of identifying communities with a high prevalence of persons at high risk of malnutrition. The SVAN surveillance system is not primarily a mechanism for monitoring malnutrition nor for identifying priority problems in specific communities or regions. The SVAN contains a diagnostic logic which calls for the monitoring of causal indicators in addition to the MOH anthropometric data. (Stanfield et al., 1979)

NUTRITION AND DAY CARE: The Ministry of Labor and Social Security (Ministerio de Trabajo y Prevision Social) runs 7 day care centers for infants and children age 40 days to 6 1/2 years, serving 1,082 children and their mothers. Services include health, nutrition, and education. (Comision Hondureña, 1980)

MILK SUBSIDY: IHSS provides milk grants for 1,145 low-income families needing help for reasons such as malnutrition or prematurity of the child. (Comision Hondureña, 1980)

MINISTRY OF HEALTH NUTRITION ACTIVITIES: Some health centers and posts determine weight for age in child clinics for those who attend, but no effort is made by local health units to obtain information on all children in the area. The use of weight for age cards which the mother keeps has been established in one area of the country. Four auxiliaries of nutrition and one fully trained nutritionist are located in five of the eight regions. (U.S.A.I.D., 1980)

PROALMA: The PROALMA (Proyecto en Apoyo de la Lactancia Maternal; Project in Support of Maternal Lactation) has been conceived and designed to assist in the reversal of trends away from breast feeding, which remain as public health vestiges of previous medical practice and which have a serious negative impact on nutrition and health status. (U.S.A.I.D./Tegucigalpa, 1982)

PROALMA-PROJECT COMPONENTS: The five major strategies of the PROALMA campaign are: coordination with the existing MOH anti-diarrhea campaign, PROCOMSI; concentrating PROALMA's efforts on the urban population, where breast feeding is most threatened; education of health professionals; development and distribution of quality educational materials aimed at both the health profession and the general public; and the development of a breast feeding resource center in the PROALMA headquarters to gather all of the relevant Spanish-language materials which interested groups could use. (U.S.A.I.D./Tegucigalpa, 1982)

PROALMA SUPPORT: Staff working on the development of the PROALMA campaign have received support from a variety of key sources, including chiefs of newborns services at hospitals, the First Lady and her private secretary, the Director-General of the Junta Nacional de Bienestar Social (JNBS), INCS, and several other institutions. Many requests have already been received for training, educational materials, and consultation. (U.S.A.I.D./Tegucigalpa, 1982)

5.2 NUTRITION AND HEALTH POLICIES AND PROGRAMS, PROGRAMS (Cont.)

PROCOMSI: Programas de Comunicacion Masiva a la Salud Infantil has been involved in the implementation of a mass media communications program dealing with the promotion of oral rehydration therapy and the marketing of a cheap oral rehydration preparation now known nation-wide as Litrosol. The third phase of the project, which will be implemented over a six-month period beginning in August 1982, promotes the role of breast feeding in diarrhea prevention; this will reinforce the aims and activities of the PROALMA project. (U.S.A.I.D./Tegucigalpa, 1982)

MINISTRY OF HEALTH ORAL REHYDRATION PROGRAM: The MOH has begun a program of oral rehydration promotion, including education of health workers, production of aluminum envelopes of glucose, electrolyte and bicarbonate mix, and a program of education for mothers. (U.S.A.I.D., 1980)

HEALTH SECTOR ACTIVITIES: The health sector employs a large number of people; the Ministry of Health alone employs over 10,000. In addition to the traditional curative programs, the health sector includes public works and special programs in areas such as mental health, dental health, occupational health, maternal and child health, family planning, vector control, vaccination programs, food inspection, nutrition, water and sanitation projects, hospital inpatient care, laboratory services, clinic outpatient care, home visits, community organization, and health education. (U.S.A.I.D., 1980)

MINISTRY OF HEALTH NUTRITION REHABILITATION: The Ministry of Health has established seven Education and Nutrition Recuperation Units (SERNs): three in Tegucigalpa and one each in four other regions. Poorly nourished children may be referred to these units for supplementary feeding and family nutrition education. Since they are open only during the day, their usefulness is limited to families within walking distance. Administrative problems and under-funding of the centers have also limited their impact. (U.S.A.I.D., 1980)

SERN: The SERN program plans to provide rehabilitation for 810 children. (MSP/AS, 1979d)

FOOD CONTROL PROGRAM: This program's objective is to assure that the population consumes foods in good condition, which will not cause the disease and death related to physical, biological, or chemical contamination. (MSP/AS, 1979a)

NUTRITION PERSONNEL: Among the 2,492 Ministry of Health employees projected for 3 national hospitals in 1983 are 377 physicians, 12 nutrition personnel, and 923 hospital auxiliaries. The 6 Regional Hospitals are to have 191 physicians, 8 nutrition personnel, and 700 auxiliaries; the 21 area hospitals, 168, 84, and 980 respectively; and the 84 CESAMOs, 234 (including those on their compulsory service), 0, and 429. The CESARs are staffed entirely by auxiliaries and at the community level are 13,600 volunteers. (MSP/AS, 1979a)

MINISTRY OF HEALTH DELIVERY SYSTEMS: The MOH delivers health services through two different avenues: a routine pyramidal system of hospitals and health centers, and through special programs with single purposes. The special-purpose programs, which have a long history in the MOH,

include programs to vaccinate children and pregnant women, control diarrhea, install water and sanitation systems, and control malaria and tuberculosis. These preventive programs have their own administrative and promotional staff within the pyramidal health system, but retain vestiges of the old vertical organization; the end result is a great deal of confusion at the local level as to the authorities and priorities of the MOH. (U.S.A.I.D., 1980)

HEALTH CARE OUTREACH: Prenatal care reaches less than half the population, and the age group of 1 to 5 years, where almost half of all deaths occur, had only 38% coverage. (Hartman, 1980)

HEALTH CARE SYSTEM: The health care hierarchy includes 7 regions; a teaching hospital in Tegucigalpa; regional hospitals; central emergency hospitals; health centers; rural health centers; and health workers (guardians de salud) in charge of rural communities. Non-governmental services include missionary hospitals and a hospital of the Standard Fruit Co. in La Ceiba. Over half of the doctors practice in Tegucigalpa, the capital. Half of the population has no access to health care. (Licross, 1979)

HEALTH CENTERS: Preventive and curative care outside of hospitals is provided by about 75 Centros de Salud con Medico (CESAMOs) and 450 Centros de Salud Rural (CESARs). Although most rural CESAMOs have one physician and one or two other staff, one urban center has 24 physicians and a total staff of 118. (Shepard and Overholt, 1980)

PHYSICIAN CESAMO SERVICE: Medical graduates are obliged to serve one year of rural service before licensing; they usually serve at CESAMOs. (Hartman, 1980)

HEALTH CENTERS: The health care system in rural areas is focused on the CESAR (Rural Health Center), which is staffed by auxiliary nurses. The nurses supervise the community level personnel, including health guardians, health representatives, and empirical midwives, all of whom are volunteers, as well as providing primary care to surrounding communities. The auxiliaries cooperate closely with the vector control auxiliaries and the health promoters. (U.S.A.I.D., 1981)

CESARS: Each of the 400 CESARs serves about 2-3,000 people. Staff include salaried workers: the Auxiliar de Salud, who has received one year of training and provides direct patient care; the Promotor de Salud, usually a University graduate, who provides organization, education, and technical assistance in development; and the Auxiliar de Control de Vectores. (Hartman, 1980)

GUARDIAN DE SALUD: The "guardian de salud" is a volunteer selected by the community to receive 20 days of training over a 12-month period by MSP/AS training teams. The Guardian provides basic health care, maternal and child care, education and health promotion in the community, and referrals of patients for more complicated illnesses. (Hartman, 1980)

LACK OF VOLUNTARISM: Only 40% of the volunteers originally trained are still active. One reason is that they receive little support; supplies

5.2 NUTRITION AND HEALTH POLICIES AND PROGRAMS, PROGRAMS (Cont.)

are provided irregularly. They do not receive support such as regular supplies, per diems, equipment, adequate supervision, and recognition. The lack of financial incentives has been a major problem, since the idea of voluntary service is foreign to the culture and everyone knows and accepts that no one at any level works without pay or some form of compensation. Volunteers cannot even charge for medicines. (APHA, 1981)

NUTRITION ACTIVITIES OF AUXILIARY NURSES: Auxiliary nurses run most of the actual delivery of health and nutrition services, because of their numbers and locations. The MOH document "General Norms for Attention to Rural Communities" lists 13 items directly related to nutrition, which the auxiliary nurse should do in addition to her other tasks. An MOH survey found that the nurses thought they carried out nutrition and community participation activities poorly because of weak training in these aspects of their work. (U.S.A.I.D., 1980)

PLANNED MEDICAL FACILITIES: The National Health Plan proposed maintaining the three national and 6 regional hospitals, increasing the number of area hospitals from 7 in 1977 to 21 in 1983, and increasing the number of CESAMOs from 72 to 84 and the number of CESARs from 284 to 462. (MSP/AS, 1979a)

PANI: PANI (National Foundation for Infants) is an autonomous institution supported by a pair of lotteries. It conducts programs in health, education, employment generation, community assistance, and social improvement. It also runs a food production plant which turns out food items for its infant and child feeding programs and those of the National Board for Social Welfare (JNBS). (U.S.A.I.D., 1980)

POPULAR PROMOTION MOVEMENT-ORGANIZATION: The Popular Promotion Movement (PPM) integrates radio schools with a system of leadership training and community organization intended to serve as the basis for rural interest-group formation. Through teaching basic skills such as literacy and health, agriculture, and nutrition skills, an awareness of community problems can be raised, incorporating social, economic, religious, cultural, and political aspects of community life. (White, 1977)

PPM - HEALTH AND NUTRITION EDUCATION: The PPM health and nutrition education program included not only radio broadcasts, but also a system of rural homemakers' clubs which provided the support of a local organization concentrating on implementation, a series of courses for women in health, answering letters and responding to concrete problems, and supervisors visiting the clubs in the communities. Some clubs also maintained emergency health loan funds and a community medicine chest. (White, 1977)

PPM - HOMEMAKERS CLUBS: The homemakers' clubs participants were more likely to be women of higher socioeconomic status and to have higher initial levels of health knowledge. Women from families with large land units and greater economic and food resources would be inclined to be more concerned with diet quality than women who had to be concerned with diet adequacy in quantity. CARITAS of Honduras supervised more than 1000 homemakers' clubs, six regional leadership training centers, and four cultural and educational radio stations. (White, 1977)

PPM RADIO SCHOOLS: Although participation in homemakers' clubs was a significant factor in influencing adoption of health practices promoted by PPM, the most accurate predictor of implementation was the number of years of enrollment in PPM radio schools. The women of the PPM who were most likely to have better health practices were radio-school students who were also members of the homemakers' clubs. (White, 1977)

PPM - EFFECTIVENESS: Women participating in the PPM not only had higher levels of health knowledge than women in non-PPM communities, but also had a significantly higher implementation of health practices as well. The lack of knowledge-practice gap, observed in other PPM elements, such as the agriculture-productivity program aimed at men, may be attributable to the lack of technology required for implementation of the new health knowledge. (White, 1977)

RADIO CAMPAIGN: The Honduran AMA-MAS breast feeding campaign was an integrated mass media campaign utilizing radio, graphics, and face-to-face communication to change behaviors related to breast feeding. The campaign was a pilot project in three of the eight Ministry of Health regions. Thousands of women took part in the radio-based ten-week course. Over 1,000 women in one region alone completed the exam and received a diploma. (Booth, 1983)

NUTRITION EDUCATION IN SANITATION PROJECT: The Water Supply and Environmental Sanitation component of the A.I.D. Grant/Loan calls for construction of wells and latrines, and for nutrition education for the beneficiaries of the facilities, to be conducted by the Ministry of Health. (Stanfield et al., 1979)

USAID SUPPORT: USAID has provided a \$3.5 million loan which provides technical assistance and program support in analysis and planning, nutrition education, sanitation, and pilot projects in soy production and health. (U.S.A.I.D., 1979)

USAID HEALTH SECTOR SUPPORT: The principal AID health project in Honduras is Health Sector I, which consists of human resources and institutional development, will enable the MOH adequately to plan, coordinate, and implement its program of extending the Primary Health Care System throughout rural and peri-urban communities. The project's interventions include: health technologies, logistics and maintenance, planning and management, and human resources development and supervision. (U.S.A.I.D./Tegucigalpa, 1982)

USAID INFANT FEEDING STUDY: USAID is supporting an infant feeding practices survey. A hospital survey of the feeding plans of 1,975 women has been completed; a longitudinal ethnographic study of infant feeding in 75 families is underway; and a cross-sectional study of feeding practices in a representative sample of 500 households in which infants were born in the previous 6 months will be completed in 1982, and the final report will be submitted. (U.S.A.I.D., 1979)

INCAP: INCAP provides technical assistance, under a USAID grant in nutrition planning. This is also supported by a Kellogg award. (U.S.A.I.D., 1979)

5.2 NUTRITION AND HEALTH POLICIES AND PROGRAMS, PROGRAMS (Cont.)

PRIVATE VOLUNTARY ORGANIZATIONS: By 1980, there were 68 PVOs working in health or nutrition programs, making a substantial contribution toward the nation's health system. (U.S.A.I.D., 1980)

PL-480 RECIPIENTS: In fiscal year 1977, 390,000 persons received food through PL-480 programs run by CARE, CRS, and the World Food Program, including programs in maternal and child feeding, school feeding, other child feeding, and food-for-work. (Food For Peace, 1978)

PL-480 ALLOTMENT: For fiscal year 1982, the approved quantity of food for Honduras totaled 8300 metric tons of non-fat dried milk, soybean oil, wheat flour, wheat-soy blend, corn-soy milk, and rice worth \$3.5 million, to be distributed by CARE and CRS through their programs of maternal and child feeding, school feeding, other child feeding, and food-for-work, to about 370,000 recipients. (Food for Peace, 1981)

CATHOLIC RELIEF SERVICES AID: CRS operates a maternal and child supplementary feeding program and a food-for-work program that focus primarily on rural community development efforts. In 1980 they expected to distribute PL-480 food worth U.S. \$900,000. (U.S.A.I.D., 1980)

CRS/CARITAS AND PL-480: CRS, through the local counterpart, Caritas, distributes food through MCH centers and Food-for-Work. The FFW program has 5,000 workers with 20,000 dependents, who must also be considered as beneficiaries. The MCH program provides CSM (corn-soy milk), rolled oats, non-fat dried milk, and vegetable oil; FFW supplies CSM, rice, and vegetable oil. In fiscal year 1979, the MCH program reached 16,600 beneficiaries instead of the approved level of 30,000 due to lack of administrative funds. The FFW program served 17,000 direct beneficiaries. (Stanfield et al., 1979)

CATHOLIC RELIEF SERVICES: In 1979, CRS distributed 1,697.29 metric tons of U.S. PL-480 foods, valued at \$478,811, and \$90,255 in cash, to purchase emergency supplies consisting of food and cooking utensils. (TAICH, 1980)

PRE-SCHOOL NUTRITION FEEDING PROJECT: This project distributes PL-480 wheat-soy blend, soy-enriched grains, oil, and peas for on-site (75%) and take-home (25%) consumption for pregnant women, families, and children age 1 to 5 years, selected by class. The program reaches 64,000 and conducts some education activities and food demonstrations at the distribution sites. (Austin et al., 1978)

CARE ACTIVITIES: CARE has made health and nutrition its priority program areas in Honduras. Projected inputs for 1980-82 were U.S. \$1.2 million. CARE also distributes PL-480 foods; in 1980 the value of the food distributed was U.S. \$2.3 million. (U.S.A.I.D., 1980)

CARE AND PL-480: CARE has distributed U.S. PL-480 foods since 1959. CARE operates in cooperation with the Ministry of Health and the Ministry of Education. MOH programs operate through health centers, institutions such as boarding schools and orphanages, and day care centers to reach vulnerable individuals (children and women of childbearing age); the goal of this program is 100% consumption of the daily ration for all 75,000

beneficiaries for a maximum of 12 months a year; the underlying and untested assumption is that this would result in improved nutritional status for recipients. The school feeding program has a similar goal for its 220,000 beneficiaries. The institutional and day care programs reach about 3,000 and 2,000 beneficiaries respectively. Rations include wheat-soy blend, non-fat dry milk, and sugar; the last two are in this case supplied by the Ministry of Education. (Stanfield et al., 1979)

CARE NUTRITION ACTIVITIES: In cooperation with the Ministry of Education, CARE provides a daily snack, normally prepared as a drink at schools or nearby homes, for about 220,000 school-aged children in 3,000 schools. In cooperation with the Ministry of Health about 57,000 mothers and pre-school children at almost 650 centers are fed from one to three meals a day, or are given a take-home ration through health centers administered by the Ministry of Health. In addition, about 3,000 children under 14 years of age who consume all their meals at either orphanages or boarding schools will receive food supplements through CARE. (TAICH, 1980)

CARE FEEDING PROGRAMS: 57,000 mothers and pre-school children at 650 centers were fed from 1 to 3 meals a day at the center, or were given a take-home ration. Food is also provided to 3,000 children at orphanages and boarding schools. At day care centers, 1900 children under 5 years old receive food supplements through the centers. These projects are implemented with the assistance of the Ministry of Health. (CARE, 1980)

CARE SCHOOL FEEDING PROGRAM: About 200,000 children in 3,000 schools receive a daily snack, normally prepared as a drink at the school, or by a woman in the community. This project is implemented with the Ministry of Education. (CARE, 1980)

NUTRITION EDUCATION: In cooperation with CARE, the La Buena Fe Association of Independence, Missouri conducts nutrition education programs in three villages. (TAICH, 1980)

UNICEF NUTRITION ACTIVITIES: Among its health-related activities, UNICEF has developed 13 community nutrition centers, 46 child feeding centers, and programs in food production assistance. (Cox and Weissman, 1979)

UNHCR AND REFUGEES: The UN High Commission for Refugees has assisted the refugees arriving from Nicaragua since September 1978, providing \$150,000 for food and clothing in the first year. (Cox and Weissman, 1979)

WORLD FOOD PROGRAMME: The World Food Program, sponsored by the United Nations, distributes food supplied by over 100 nations through three projects. Rural Development and Rehabilitation through Self-Help and Production of Basic Grain and Development of Rural Infrastructure, both food-for-work (FFW)-type activities, and distribution of food to Nicaraguan refugees. The FFW projects distribute maize, pulses, canned or dried fish or canned meat, non-fat dried milk, and vegetable oil. (Stanfield et al., 1979)

WORLD EDUCATION, INC.: This organization, in cooperation with other PVOs, is training twenty nutrition educators from Guatemala, Honduras,

5.2 NUTRITION AND HEALTH POLICIES AND PROGRAMS, PROGRAMS (Cont.)

and Mexico; in turn, they will train 500 field workers during the two-year project. (TAICH, 1980)

CEDEN: Although it was formed before Hurricane Fifi hit Honduras in 1974, CEDEN (Evangelical Committee for Development and National Emergencies) carved its identity out of the emergency response to the disaster. The emergency revealed the everyday borderline crisis of daily life and demonstrated the need for long-term development. CEDEN now provides technical support to villagers in various long-term development activities, including water sources, latrines, gardening, health worker training, and small-animal husbandry. (Church World Service, n.d.)

OTHER PVO ACTIVITIES: In addition to the above programs, 37 other U.S. PVOs operate programs in health, agriculture, and nutrition in Honduras. (TAICH, 1980)

PEACE CORPS: The Peace Corps provides 100 to 500 volunteers to health-related projects each year. Some work as nutritionists with CARITAS. (Cox and Weissman, 1979)

AID NUTRITION PROJECT: AID has granted the National Nutrition Program funds to increase the government's capacity to carry out analysis, planning, and evaluation and support the development of institutions and rural infrastructure. Project components include: 1) analyses, planning, and evaluation, 2) nutrition education, 3) water supply and sanitation, and 4) pilot projects in increasing production in soybeans, sorghum, aquaculture and community food resources. The nutrition education component will include radio messages on breast feeding, diarrhea, and grain production. Major project outputs will be: 1) establishing a nutrition surveillance system under SAPLAN, 2) evaluation of the PL-480 program, 3) surveys of food consumption patterns in relation to family income and expenditures, and 4) nutrition education for ministry field personnel. (Cox and Weissman, 1979)

WEST GERMAN AID: After Hurricane Fifi in 1975, the West German Government began a food-for-work program. Since then, the program has been redesigned to support the GOH National Development Plan, emphasizing employment and income-generating opportunities in order to secure the basic food needs for marginal Honduran families. Total program value in 1978 was U.S. \$1.9 million. (U.S.A.I.D., 1980)

COHAAT: COHAAT (La Cooperacion Hondureña Alemana Alimentos por Trabajo) was begun in 1975 by the Federal Republic of Germany in response to Hurricane Fifi. It now provides food, technical assistance, and tools and instruments (e.g., wheel barrows and shovels) through a FFW program. All the food (corn and beans) is produced locally and purchased in Honduras through capital provided by the Germans. The value of all goods, services, and expenses in 1978 was U.S. \$1,860,712; numbers of beneficiaries were not available. (Stanfield et al., 1979)

GERMAN AID: The Government of the Federal Republic of Germany has supported the World Food Program for their food-for-work projects. (Cox and Weissman, 1979)

EUROPEAN ECONOMIC COMMUNITY: Since 1975, after Hurricane Fifi, the EEC has donated food commodities including wheat, rice, powdered milk, and vegetable oil. These commodities are handled much like PL-480 foods; they are either sold to generate revenues or are distributed through various feeding programs. (U.S.A.I.D., 1980)

EEC: The European Economic Community program was begun after Hurricane Fifi, and now provides wheat, powdered milk, and vegetable oil. The EEC does not have personnel in Honduras; CONSUPLANE coordinates the use of food among various ministries and programs. (Stanfield et al., 1979)

EEC FOOD DISTRIBUTION: Hospitals receive food from the European Economic Community, but by June 1979, only 20% of the planned distribution for 1979 had occurred, because of distribution problems. (U.S.A.I.D., 1980)

REFUGEE CAMPS: Camps for refugees from Nicaragua's political unrest have been run by the International Red Cross, the U.N. High Commission on Refugees, the Honduran Government, and other relief agencies. The Honduran Ministry of Health established health centers in each camp, staffed by nurse-auxiliaries. Over half of the consultations were due to acute diarrheal diseases, mostly in young children. (Isaza et al., 1980)

ORAL REHYDRATION AND REFUGEES: At a camp for refugees from Nicaragua, the medical team found that oral rehydration therapy for mildly to moderately dehydrated children could be managed successfully by their mothers. Mothers were instructed in the use of Oralyte solution. 80% of those who completed the treatment were asymptomatic at discharge. (Isaza et al., 1980)

RURAL

MASS MEDIA AND HEALTH PRACTICES PROJECT: The Mass Media and Health Practices Project is conducted by A.E.D. under a contract with U.S.A.I.D. in a group of rural communities in Health Sector I. The Project's goal was to conduct a five-year mass communication project, including development of a methodology for the application of mass communication to the prevention and treatment of acute infant diarrhea in rural areas. The long-term goal was to strengthen the health education of the cooperating Ministries of Health in Honduras and the African country selected for the project. The project is being conducted in three phases: a public education campaign, analysis of results, and dissemination of those results to the world community of development communications professionals. (A.E.D., 1980a)

ORT MESSAGES: The proposed public education campaign on treatment and prevention of acute infant diarrhea will promote the administration of pre-packaged oral rehydration formula provided by the World Health Organization. It will be directed to rural, low-income mothers for use in their homes during mild to moderate bouts of diarrhea. Rural mothers will be told to take their children to health facilities or health workers if the diarrhea becomes severe. The two basic messages, therefore, will be to give the ORT solution when the child becomes mildly ill, and to seek help if the child becomes worse. (A.E.D., 1980c)

5.2 NUTRITION AND HEALTH POLICIES AND PROGRAMS, PROGRAMS (Cont.)

INFORMATION OUTREACH: As the best means for publicizing new health treatments in the region, mothers recommended the radio. Second most popular was the guardian de salud, but this may have been because the survey was identified with the Ministry of Health. (Booth et al., 1980)

RADIO CREDIBILITY: Asked whether they believed what they heard on the radio, 85% of the interviewees said yes. (Booth et al., 1980)

ROLE OF NURSES: Auxiliary nurses are overburdened and generally do not see themselves as health educators. They resist this role in most cases and generally do very poor jobs of teaching or explaining to mothers. (A.E.D., 1980c)

URBAN

BREAST FEEDING PROMOTION: In the city of San Pedro Sula is an active branch of La Leche League ("La Liga de la Leche"), which promotes breast feeding. (Comision Hondureña, 1980)

6. COMMENTARIES

NATIONAL

RESULTS OF MALNUTRITION AND INFECTION: The adult population lives in a morbid state which markedly reduces the effectiveness of the working population (by 25% to 33%), wastes vast quantities of food by malabsorption and accelerated metabolism, and markedly increases the demand for health services, utilizing these services in an uneconomic manner. (Wooley et al., 1972)

NUTRITION REHABILITATION: The nutrition rehabilitation centers (SERNs) require daily attendance at the center, and hence are limited to those families who live in larger towns where SERNs are located. It is not felt that recuperation centers can provide a very significant response to the Honduran nutrition problem because it is not feasible to extend the availability of the service to a significant portion of the dispersed population. (Stanfield et al., 1979)

NEED FOR COORDINATION: Observers have noted that there is little coordination among nutrition programs at the field level. Often, nutrition activities of various branches of the government (feeding centers, agricultural projects) operate in the vicinity of MOH health units, but the coordination needed to make these programs complement each other is lacking. (U.S.A.I.D., 1980)

PROBLEMS WITH SUPPLEMENTARY FEEDING PROGRAMS: There is little or no coordination among the multilateral, bilateral, and voluntary agencies presently donating food or implementing feeding programs, and SAPLAN has had little or no information concerning the aims and objectives of the programs, beneficiary types, geographic areas of operations, selection criteria, type and quantity of rations, systems of control and supervision of resources, and program value. (Stanfield et al., 1979)

NUTRITION PROGRAMS: The effectiveness of nutrition programs is hampered by the failure to integrate them into the basic health system. Health and feeding programs exist side by side with no staff interaction or support. (Hartman, 1980)

MANAGING SUPPLEMENTARY FEEDING PROGRAMS: The supplementary feeding programs represent a major food and administrative resource which could be better used in alleviating malnutrition. The coordination of these programs requires that SAPLAN evaluate the existing programs, prepare a manual to guide the formulation and execution of projects which have food distribution as an element, and the publication of SAPLAN's conclusions concerning the geographic areas of high malnutrition where such programs should be concentrated. (Stanfield et al., 1979)

MINISTRY OF HEALTH ACTIVITIES: It seems that since the establishment of SAPLAN the MOH has decreased its nutrition efforts to mainly providing attention to clinically malnourished individuals. The Ministry has not mobilized the necessary efforts and leadership to contribute effectively to prevention. The Nutrition Department, which recently had three professionals, has been reduced to its Chief, and in the eight Sanitary

6. COMMENTARIES (Cont.)

Regions, there are only four auxiliary nutritionists and one professional. Thus, the MOH does not have the capacity to promote its own activities, even if it wanted to. Finally, it tends to work in isolation with little contact with other units that carry out important nutrition activities, including epidemiology, nursing, planning, and maternal and child health. (U.S.A.I.D., 1980)

NUTRITION SERVICES NEEDS: The Ministry of Health nutrition services should be improved through identification of high risks, with referral to appropriate source of care, integration with supplementation programs if they exist, and education. (Hartman, 1980)

PPM HEALTH EDUCATION EFFECTIVENESS: The PPM campaign incorporating radio schools and homemakers' clubs was effective in improving women's health practices for three reasons: 1) they emphasized preventive practices which were within the reach of most socioeconomic levels, and did not require any credit support or more sophisticated technical knowledge, as did the agriculture program, 2) the presence of health centers in the PPM communities supported the PPM efforts and made health care feasible, and 3) over 300 homemakers' clubs created a social force in the community motivating women to change health practices by providing practical support. (White, 1977)

AGRICULTURE POLICY: It is urgent that the policies of the agriculture sector be examined to estimate their nutritional impacts. In a country which depends on agricultural exports for a significant portion of its foreign exchange, it is difficult to argue that land and resources presently used for the generation of foreign currencies be shifted to the production of basic food stuffs. Nevertheless, experiences such as those with the Aguan Valley project (where citrus was grown and shipped out of the area) or beef production illustrate the need not to ignore local nutritional needs. (Stanfield et al., 1979)

AGRICULTURE: Production of bananas works to the nutritional detriment of the population because more nutritious crops could be grown on those lands. Likewise, export of beef and seafood exacerbate shortages of protein. The seafood also contains iodine lacking in the highlands. (Wooley et al., 1972)

RURAL

RECOMMENDED MASS MEDIUM: Radio as a mass medium is best fitted to the needs of the Mass Media and Health Practices project. Radio is more popular, more widely used, and more influential than visual or print materials. The number of households with a radio is not as high as had been hoped; 56.2% of households reported having at least one radio, but some of these sets were out of order, had no batteries, or were regularly removed from the house by the father or another household member; 49.4% of sets both functioned and remained at home. The mothers interviewed did not, for the most part, own printed materials, but did show interest in having fotonovelas. (Booth et al., 1980)

URBAN

REASONS FOR NOT BREAST FEEDING: In urban areas, the rate of breast feeding is lower because women are subjected to influences such as working conditions, advertising by formula companies, the social status of bottle feeding, and advice of medical personnel, among other causes. (Comision Hondureña, 1980)

BOTTLE FEEDING AND CONVENIENCE: With the introduction of regular bottles, there is a concurrent increase in the mothers' activities unrelated to their infants. This change in the relationship between mother and infant may in part be a product of the freedom mothers feel to leave their babies once bottles have been initiated, or it may be an artifact of the advancing age of the infant and increasing economic and social demands on many mothers. (O'Gara, 1982)

BIBLIOGRAPHY

A. E. D.

(Academy for Educational Development, Inc.)

- 1981 Field Notes for Mass Media and Health Practices, Project Implementation, #1 Packets: Do Visual Instructions Make A Difference? #2 Packets: More Questions and a Few Answers; #3 The ORT Poster: Something Special for Professionals; #4 Selecting Campaign Messages; and #5 Building a Network of Effective Providers. Washington DC: Academy for Educational Development, Inc. April to December 1981.

This series of reports describes the development of the Oral Rehydration campaign of the Mass Media and Health Practices Project. Details are given on methodology of development and the process of project design and implementation.

A. E. D.

(Academy for Educational Development, Inc.)

- 1980a Mass Media and Health Practices Implementation: Developmental Investigation Protocol. Washington D.C.: Academy for Educational Development, Inc., Document #9, May 1980. Sponsored by the Office of Health and Office of Education Development Support Bureau, U.S. Agency for International Development.

This report describes the development of the methodology for the initial investigation of the diarrhea problem in rural areas, including graphic models of the project's concepts of the communications system and the development of the investigation. Research questions, survey concerns, and proposed instruments are included.

A. E. D.

(Academy for Educational Development, Inc.)

- 1980b Mass Media and Health Practices Implementation: Description of Field Investigation Activity: Honduras. Washington D.C.: Academy for Educational Development, Inc., Document #12, August 1980.

This progress report describes the preliminary field investigations of the project, including frank and detailed descriptions of instrument development and adaptation, and field experiences in community work, interpersonal development, and logistics.

Previous Page Blank

BIBLIOGRAPHY (Cont.)

A.E.D.

(Academy for Educational Development, Inc.)

- 1980c Mass Media & Health Practices Implementation: Implementation Plan, Honduras. Washington D.C.: Academy for Educational Development, Inc., Document #15, November 1980.

This report describes in detail the proposed campaign for introducing Oral Rehydration Therapy through the use of packets of rehydration salts from WHO. Campaign details include problems, communication objectives, audience definition, communication strategies, message tone, and execution plan. An extensive report is given of the message and materials design and development for both prevention and treatment of diarrhea.

Alvarado, R.

- 1979 Review of the Honduras Program. In: Low-Cost Extrusion Cookers, Second International Workshop Proceedings January 15-18, 1979 Hotel Kilimanjaro, Dar es Salaam, Tanzania, ed. D.E. Wilson, pp. 85-95. Fort Collins, Colorado: Department of Agricultural and Chemical Engineering, Colorado State University.

This document provides extensive details about formulated foods produced with extrusion cookers, including the history and development of a Honduran food, with an analysis of its current shareholders, institutional and retail markets, and fortification of Maisoy with iron and thiamin.

APHA

(American Public Health Association)

- 1981 AID-Assisted Primary Health Care Projects: Summary Reviews. Washington DC: APHA, International Health Programs.

U.S.A.I.D. is one of the major sources of external support for primary health care programs in developing countries. In this report, 52 A.I.D.-assisted projects in Asia, Latin America, Africa, and the Near East are described. Projects were selected in conjunction with health specialists in A.I.D.'s four regional bureaus. Each project description includes basic country data, a synopsis, background description including goals and activities, implementation experience, and a bibliography. A second volume is planned, which will analyze the status and prospects of these projects.

Austin, J. E., Mahin, M., Pyle, D., and Zeitlin, M.

- 1978 Annotated Directory of Nutrition Programs in Developing Countries. Cambridge, Mass: Harvard Institute for International Development.

This document presents responses to a questionnaire mailed to nutrition program personnel in developing countries. Program descriptions appear in tabular form. The nutrition programs of those who replied to the questionnaire are not an exhaustive or random sampling of programs.

Birker, B.

- 1981 Consultant Report for Honduras. International Nutrition Communication Service: Newton, MA, Education Development Center, under contract to U.S. Agency for International Development, through subcontract to Save the Children Foundation, Wilton, Connecticut.

INCS assisted SAPLAN in developing a prototype nutrition education course to use in training field workers in government agencies. This report includes observations made near the end of the project, including assessment of the draft curriculum and support materials, and suggestions for developing plans for putting the course into operation.

Booth, E. M.

- 1983 AMA-MAS: A Radio Course on Breastfeeding, Mass Media and Health Practices project. Washington, D.C.: Academy for Educational Development, Inc., September.

This document summarizes the steps taken to research, plan, implement, and evaluate the Honduras AMA-MAS ("Love More") radio course on breast feeding. All aspects of the program are explained, including goals set, management structure, campaign design and strategy, description of materials and themes developed, training, pre-testing results, and evaluation. One interesting component is the section devoted to "lessons learned" from the project. The project noted that initial evaluation of the radio course showed positive results, suggesting that rural women can learn from radio.

Booth, E., Pareja, R., and Smith, W. C.

- 1980 Results of Honduras Field Investigation. Washington D.C.: Academy for Educational Development, Inc. Mass Media and Health Practices Project, Document #14, November 1980.

Original data

Method: Open-ended questions directed at small groups and selected individuals as well as direct observation and an empirical survey instrument. Work was divided into several teams studying different people and variables.

Sample: Much of the information on beliefs and stated practices was obtained in focus group discussions; sample size not given but apparently represented 267 households. Individual interviews were conducted with 64 mothers, 67 fathers, and 22 grandmothers; total 153. Location: 38 rural villages in Health Region I (according to A.E.D., 1980b--see reference above).

This report represents the results--and a summary of the methodology--of the Mass Media and Health Practices Study funded by U.S.A.I.D. and conducted by A.E.D. (see other references under A.E.D. above). The document summarizes quantitative findings and presents extensive discussion of the qualitative findings and experiences of the research team. Some results of the investigation were still being tabulated.

BIBLIOGRAPHY (Cont.)

The discussion of the qualitative data includes beliefs and practices related to recognition and treatment of illness, especially diarrhea, prevention, and ways of affecting community beliefs and behaviors through leadership opinion, mass media, and direct work with mothers. Finally, mass media patterns are presented and discussed; the study recommends radio as the best way to reach mothers with new health information.

Brown, R. E.

- 1982 Report on Consultation to Honduras. Newton, MA: International Nutrition Communication Service, Education Development Center, under contract to U.S. Agency for International Development, through subcontract to Save the Children Foundation, Wilton, Connecticut.

This document supplements the USAID/Tegucigalpa report described below. The consultant provides details about the background and design of the PROALMA campaign, focusing on the personnel and institutions involved, the campaign's startup activities, and relevant local breast feeding conditions and beliefs.

CARE

- 1984 Community Health and Nutrition Education (CHANE) Multi-Year Plan, 1985-1987. CARE-Honduras, September.

This project document describes CARE's plan to establish a Community Health and Nutrition Education (CHANE) System to support not only CARE programming in Honduras, but also to improve the use of government public service programs and personnel. The project will use multi-media and non-formal education approaches to change community participants' attitudes and behaviors regarding health and nutrition. The project will encompass such CARE projects as school feeding, mother-child feeding, community water systems, and community watershed conservation. The document includes a description of the project design, project evaluation structure, and a budget.

CARE

- 1980 Resume: CARE Projects, Fiscal Year 1980.

This report describes the proposed and ongoing CARE projects in many countries, giving project numbers and projected activity and staffing levels, but no budget information.

Church World Service

- n.d. In Honduras: A Witness to Hope. World Hunger Fact Sheet #17, p. 3-4. New York: Church World Service.

This article describes the agency's activities in Honduras, many of which are related to environmental sanitation and agricultural development. Case examples are given, and an overview of food and health in rural villages.

Comision Hon'areffa

- 1980 Lactancia Natural y Alimentacion Materno-Infantil en Honduras. Paper presented at the conference, "Promocion de la Lactancia Materna y la Alimentacion Materno Infantil," held in Tegucigalpa, March 18-20, 1980.

This document summarizes research, policy, and legislation related to maternal and infant nutrition, including the policies and duties of various Ministries; data about practices in the various Regions, as collected by CONSUPLANE; the texts of laws about maternity coverage, breast feeding breaks, and safety; and descriptions of breast feeding promotion activities at the national, regional, and local levels.

CONSUPLANE

(Consejo Superior de Planificacion Economica)

- 1976 Que es SAPLAN. Tegucigalpa, June 1976.

This booklet describes SAPLAN's history, composition, duties, and plans.

Cox, K. M., and Weissman, J.

- 1979 Honduras Health Sector Review. Washington D.C.: U.S. Department of Health, Education, and Welfare, Public Health Service, Office of International Health, for U.S.A.I.D., Honduras Mission. Second draft, September 8, 1979.

This draft document summarizes available literature on health in Honduras. Much of the information is several years old, because there had not been a recent national nutrition survey. The usefulness of the document was constrained by its status as a preliminary work--obvious errors in some of the figures and statements indicate that this resource is best used as a bibliography rather than a source of accurate data.

FAO

- 1979 The State of Food and Agriculture 1978. Rome: Food and Agriculture Organization of the United Nations, FAO Agriculture Series No. 9.

This document presents FAO data on food and agricultural production, food prices, food aid, fisheries, forestry, international trade and investment. The section on problems and strategies in developing regions addresses specific production goals and constraints. Most data are presented aggregated on a regional or economic basis.

FAO

- 1977 The Fourth World Food Survey. Rome: Food and Agriculture Organization of the United Nations. FAO Statistics Series No. 11; FAO Food and Nutrition Series No. 10.

BIBLIOGRAPHY (Cont.)

This survey, part of the FAO's continuous work in assessing the world food situation, is based on the best data available. Most data presented in this report are aggregated by continent or by development categories. National data are given for agriculture and food production and for calorie and protein supplies per capita. Calculations are made of the per capita calorie requirement for each nation and for the "critical limit" of calorie intake (set at 1.2 times the estimated Basal Metabolic Rate) below which an individual is nearly certain to be calorie deficient.

Food for Peace

- 1981 Fiscal Year 1982 Public Law 480 Title II, ISC Approved Quantities, Voluntary Agencies/WFP/Government-to-Government. Washington, DC: Food for Peace, Program Operation Division, A.I.D., State Department, October 1981.

This report is a computer printout showing the countries expected to receive Title II PL-480 foods in fiscal 1982, with the program sponsor, program category, recipients, and commodities (by weight and dollar value) approved for distribution by various voluntary agencies.

Food for Peace

- 1978 The Annual Report on Activities Carried Out under Public Law 480, 83d Congress, As Amended, During the Period October 1, 1976 through September 30, 1977. Washington DC: U.S. Department of Agriculture.

This annual report on agricultural export activities under PL-480 includes activities under all titles of the law and focuses on disaster relief efforts and recipients of concessional food aid. Extensive tables show activities on a country basis, including foods involved and dollar values.

Hartman, A. F.

- 1980 A Strategy for Strengthening Basic Health Services in Honduras. Presented to the Ministry of Health and Social Assistance, Government of Honduras, and the United States Agency for International Development.

Isaza, P., Quinteros, Z. T. de, Pineda, E., Parchment, C., Aguilar, E., and McQuestion, M. J.

- 1980 A diarrheal diseases control program among Nicaraguan refugee children in Campo Luna, Honduras. Bull. Pan Am. Health Org. 14(4):337-342.

The study reported provided oral rehydration therapy for 71 mildly to moderately dehydrated children with diarrheal disease at a Nicaraguan refugee camp in Honduras. This trial, apparently the first of its kind in an emergency of disaster-related situation, showed that if properly instructed and supervised, mothers can successfully deliver oral rehydration therapy to their children in a field setting.

Licross (Licross/Voltags Steering Committee for Disasters)

- 1979 Medico-Nutritional Information on Disaster Prone Countries and Glossary of Common Illnesses. Brussels: International Research Center on Disasters Epidemiology, Unit of Epidemiology, School of Public Health, University of Louvain. September 1979.

This series of over 100 1- or 2-page "country fact sheets" was prepared by the Steering Committee to aid in prompt and appropriate responses to disasters; the accompanying glossary was designed for non-medical administrators. Each section describes a country's diet, nutritional deficiencies, medical supplies, health services, capacity for handling refrigerated drugs, and common illnesses. Regional and rural-urban distinctions are included where possible.

MSP/AS

(Ministerio de Salud Publica y Asistencia Social)

- 1979a Plan Nacional de Desarrollo; Plan Nacional de Salud, 1979-1983. Tegucigalpa.

This document presents the health component of the National Development Plan, including goals and general personnel and budget allocations for the five-year period. Programs are outlined in basic sanitation, vector control, food control, hospital and ambulatory health services, and administrative development.

MSP/AS

(Ministerio de Salud Publica y Asistencia Social)

- 1979b Plan Nacional de Desarrollo; Plan Nacional de Salud, 1979-1983, Plan Operative Nacional Anual, 1979. Tegucigalpa.

This document complements the National Plan, giving implementation details, including specific objectives and hospital personnel allocations and budgets.

MSP/AS

(Ministerio de Salud Publica y Asistencia Social)

- 1979c Estudio para la Ampliacion y Equipamiento de 40 Centros de Salud con Medico (CESAMO). Tegucigalpa.

This document describes the plan for increasing the number of CESAMOs, including justification, budgets, and strategies for providing basic health.

MSP/AS

(Ministerio de Salud Publica y Asistencia Social)

- 1979d Presupuesto General de Ingresos y Egresos de la Republica; Integrado por programas. Tegucigalpa.

BIBLIOGRAPHY (Cont.)

This document presents the government's legal descriptions of its public health programs, including budget details.

O'Gara, C.

1984 Personal communication. USAID Office of Nutrition, Washington, D.C.

O'Gara, C.

1982 Hot and Dry: Mother's Milk in the City. Paper presented at the Annual Conference of the Society for Applied Anthropology, March 13, 1982, University of Kentucky.

Original data

Method: Observations and interviews to collect complete feeding histories of infants.

Sample: 64 mothers, followed from the last month of pregnancy through at least the first 6 months of the baby's life. At the time of this preliminary report, there were three families in which infants had reached 6 months, and 61 in which infants were 2 to 5 months old. Convenience sample.

Location: Urban areas of Tegucigalpa, low-income households.

The goals of this AID-funded project were to document and analyze, using ethnographic and survey methodologies, the dimensions and dynamics of the decline of breast feeding in the city. The field team included the author and two Honduran field workers. This report of preliminary findings focuses on breast feeding beliefs and practices, particularly those related to the concept of leche agitada, or agitated milk, the result of physical or emotional stress, and mothers' ways of coping with this phenomenon. The author analyses the factors which lead mothers to bottle feeding practices which counter both their beliefs and the well-being of their children.

Richardson, J. L.

1975 Review of International Legislation Establishing Nursing Breaks. J. Trop. Pediatr. 21(5):249-58.

The purpose of this paper is to determine what legislation exists in various countries to protect the nursing relationship between mother and child. The intent of most of these laws is not so much to promote breast feeding as to retain mothers in the labor force, so they are usually found in maternity protection labor laws rather than in child welfare laws. The International Labour Organization, affiliated with the United Nations, recommends a half-hour twice during each working day.

Shepard, D. S. and Overholt, C.

1980 The Costs of Expanding Health Services in Honduras: A Financial Analysis of the National Health Plan 1979-1983. Boston, MA: Management Sciences for Health, prepared for the Ministry of Public

Health and Social Assistance, Republic of Honduras, and the U.S. Agency for International Development, March 1, 1980.

This report is the product of a consultancy of about two weeks by each of the authors in Honduras. It provides a financial analysis of the programs of the Ministry of Public Health and Social Assistance, reviewing the budgets and actual expenditures of the Ministry to project the implications for recurrent costs of expansions of health services as proposed in the National Health Plan for 1979-1983 and for various alternatives.

Sivard, R. L.

1979 World Military and Social Expenditures 1979. Leesburg, Virginia: World Priorities.

This document summarizes the world situation in 1979 in statistics concerning military development and expenditures, and juxtaposes these with figures on social underdevelopment concerning poverty, employment, food, health, and education. Extensive statistical tables with figures for every country make up the core of this document.

Stanfield, D., Eckroad, J., and Sahn, D.

1979 Analysis of Nutrition-Related Activities in Honduras. Ann Arbor, Michigan: Community Systems Foundation, under Indefinite Quantity Contract to U.S.A.I.D., December.

This report is the summary of work being done in Honduras concerning multisectoral nutrition planning. The focus is on the analyses which have already been done by Honduran agencies, AID, and INCAP. The purpose of the consultancy was to help synthesize suggestions for improving multisectoral nutrition planning in Honduras and to help SAPLAN, AID, and INCAP define some concrete steps which might be taken in the near future to improve this type of planning and project implementation. The goal is to assist SAPLAN and other Government of Honduras nutrition-related agencies to develop an analytical basis in the area of nutrition interventions in order to improve decision-making and delivery of services. This document is a thorough treatment of nutrition activities in Honduras, with an especially informative section on supplementary feeding programs. The operations of the relevant agencies are investigated and concrete suggestions made for future activities. Particularly needed are coordination of supplementary feeding programs in order to meet real needs and the continued support of SAPLAN as a successful interministerial agency coordinating the many disciplines which address the underlying problems causing malnutrition.

Suazo, M., Aplicano, R., et al.

1981 Honduras: Encuesta Nacional de Prevalencia del Uso de Anticonceptivos, Resultados Generales. Ministerio de Salud Publica y Asistencia Social, Direccion General de Estadistica y Censos, Consejo Superior de

BIBLIOGRAPHY (Cont.)

Planificacion Economica, Asociacion Hondurena de Planificacion de Familia, Westinghouse Health Systems.

This publication presents a detailed analysis of a nationwide study on the most commonly used contraceptives among women age 15 to 45. The most important outcome of the study refers to the knowledge and use of contraceptives, as well as their availability and present use in the urban and rural areas, the consumer's knowledge of supply sources, potential future use, the use of health services during the last pregnancy, and knowledge of the sources of information on family planning. This study was conducted by the General Office of Statistics in collaboration with the Ministry of Health, the Honduran Society for Family Planning (ASHONPLAFA), the Superior Council of Economic Planning (CONSUPLANE), and with technical and financial assistance of Westinghouse Health Systems.

TAICH

- 1980 TAICH Country Report: Development Assistance Programs for Honduras. New York: American Council of Voluntary Agencies for Foreign Services, Inc.; Technical Assistance Information Clearing House, June 1980.

This report describes the programs of 59 private, non-profit U.S. organizations which provide the people of Honduras with development assistance and material aid. Some organizations included financial information in their reports to TAICH.

Teller, C. H., Beghin, I., and del Canto, J.

- 1979a Population and Nutrition Planning: The Usefulness of Demographic Discipline for Nutrition Policy in Latin America. Bulletin of the Pan American Health Organization 13(1):21-32.

This paper discusses an INCAP project called "The Socioeconomic Dimensions of Nutrition Planning" which has designed a system of data collection and analysis to help strengthen the nutrition planning capacities of five Central American Countries and Panama. This project has developed several materials for planners' use, including a demographic source book. Honduras has begun to adopt the system in one department on an experimental basis. The report includes a table showing samples of the demographic data used in the project.

Teller, C. H., Diaz, E., Delgado, H., Saenz, L., and Arranda-Pastor, J.

- 1979b Recent Macro and Micro Trends in Child Mortality and Malnutrition and their Interrelationship in Central America and Panama. Paper presented at the Annual Meeting of the Population Association of America, Philadelphia, PA, April 25-28, 1979. Guatemala: INCAP. NOTE: This document is a draft for comments only.

This paper explores the relationships between child malnutrition and mortality, noting that there is evidence to contradict the assumption that decreasing malnutrition will decrease mortality. The paper looks at national trends in mortality and malnutrition and at the local

level trends in four areas, and then applies a new method to obtain trends in infant mortality in these areas of "deficient civil registration." Most of the information and discussion are about Guatemala, Panama, and Costa Rica. Noting that the contribution of improved nutrition to the mortality declines seems to have been minimal, the authors suggest that children are saved from death by malnutrition but medical and food technology can improve morbidity and mortality rates just so far. There is no substitute for egalitarian social change, to eliminate the sub-subsistence living conditions which perpetuate an unacceptable rate of malnutrition.

U.S.A.I.D.

(U.S. Agency for International Development)

- 1981 Request for Proposal: Honduras: Grant 522-0153 Health Sector I Project-Technical Assistance. Washington D.C.: U.S.A.I.D., June 24, 1981.

The proposed project was designed as a three-year effort to support the Ministry of Health in its efforts to improve general health, particularly to decrease infant and young child mortality and general morbidity. Project components include training for ministry personnel in health control and management skills; technical assistance in developing delivery systems; and provision of support structures such as equipment and maintenance systems and storage and equipment facilities.

U.S.A.I.D.

(U.S. Agency for International Development)

- 1980 Assessment of the Public Health Sector in Honduras (1975-1985). Tegeucigalpa: U.S.A.I.D. - Honduras, June 28, 1980.

This document was prepared as part of a larger planning project (522-9148) jointly financed and implemented by the Honduran Ministry of Health and U.S.A.I.D. Its content is drawn heavily from the various detailed reports prepared under that project. This assessment was prepared for the use of planners and decision-makers, so it focuses on broad areas of policy formulation, and is particularly concerned with resource allocations within the existing health system. The assessment draws together and evaluates the detailed observations, conclusions, and analyses which have been prepared to date, and presents these in a format which can serve to highlight a range of policy choices, investment levels, and programmatic measures needed to improve the health status of the Honduran population. The report includes detailed assessments of particular health topics, structures, and problems, including detailed recommendations for policy and program efforts, and includes tables of the demographic data upon which the report is based.

BIBLIOGRAPHY (Cont.)

U.S.A.I.D.

(U.S. Agency for International Development)

- 1979 A Preliminary Overview of Nutrition Planning Activities in Selected Developing Countries. Washington, D.C.: U.S.A.I.D., Office of Nutrition, July 3, 1979.

This report provides two-page, country-specific summaries of nutrition planning activities, such as national nutrition plans and their scope; the legal and political structure of nutrition planning agencies; utilization of food-related outputs and evidence of integration of planning; and sources of external assistance.

U.S.A.I.D./Tegucigalpa

- 1982 PROALMA: Proyecto en Apoyo de la Lactancia Materna. A Proposal for funding support to the United States Agency for International Development from USAID/Tegucigalpa, Honduras, Central America, for a Breast-feeding Promotion Program. Tegucigalpa: July 1, 1982.

This proposal describes in detail the background, strategies, methods, and budget for the PROALMA campaign. The general background includes an overview of the breast feeding situation, particularly in hospitals. The description of project components gives for each one the background, purposes, measurable objectives, and outcomes, and strategy including administration and coordination, supervision, evaluation, and budget.

White, R. A.

- 1977 Mass Communications and the Popular Promotion Strategy of Rural Development in Honduras. In Radio for Education and Development: Case Studies, Volume II, P.L. Spain et al., eds. Washington, D.C.: World Bank, Bank Staff Working Paper No. 266, May.

The Popular Promotion Movement utilized radio schools to bring adult basic education, agricultural extension, and health and homemaker education to campesinos in isolated areas. Beginning in 1965, the program encouraged community and political development and was the focus of several agencies. By 1975, more than 100,000 rural families, about 20 to 25% of the rural population, were taking advantage of one of these PPM-related agencies. The case study presented here includes a description of the organization and development of the program, and an evaluation of its effectiveness in reaching its many objectives.

Wooley, P. O. Jr., Perry, C. A., Hays, W. S., and Larson, D. L.

- 1972 Syncrisis: The Dynamics of Health. An Analytic Series on the Interactions of Health and Socioeconomic Development. II: Honduras. Rockville, MD: Public Health Service Office of International Health. May 1972.

The Syncrisis series was produced for U.S.A.I.D. to provide background information and analysis on health status and government policies and

activities in several countries. The Honduras report, though brief, includes extensive tables on health services and personnel, as well as government and PVO expenditures on health-related activities, including malaria eradication. This particular report is especially critical of the plans and recommendations of the Inter-American Committee on the Alliance for Progress (CIAP), which conducted an economic review with recommendations for development activities which could have negative effects on health. They also did not consider appropriateness of health resources or their use; the Synchrisis authors note that allocation is a problem, since the hospitals had only a 65% occupancy rate while most of the population had no access to modern health services.

World Bank

- 1981 World Development Report, 1981. Washington DC: International Bank for Reconstruction and Development, The World Bank, 1981

This document is the fourth in an annual series assessing key development issues; the focus of this year's work was the international context of development. Chapters are devoted to trade, energy, finance, human development, and countries' experiences in managing adjustment. Annexes provide tables of country-specific development indicators, including factors in population, economics, labor, and government budgets. The per capita supply of calories was computed from the net food supplies available from domestic production, imports less exports, and changes in stock; net supplies exclude animal feed, seeds, quantities used in food processing, and losses in distribution. FAO requirements are based on physiological needs for normal activity and health considering environmental temperature, body weights, age, and sex distribution of the population, and allowing 10% for waste at the household level. The World Bank notes that this document should not be quoted as representing the views of the Bank, nor does the Bank accept responsibility for the accuracy or completeness of the report.

World Bank

- 1980 World Economic and Social Indicators. Washington DC: World Bank, Economic and Social Data Division, Report No. 700/80/2, October 1980.

This document summarizes, in tabular form, aggregate and country-specific data on economic indicators such as commodity prices, consumer prices, and industrial production as well as socioeconomic indicators. The World Bank notes that this document should not be quoted as representing the views of the Bank, nor does the Bank accept responsibility for the accuracy or completeness of the report.

OTHER REFERENCES OF INTEREST

Andino, Ruth

Diarrheal Disease and Nutrition. Tegucigalpa: Ministry of Health.

Clapp and Mayne, Inc.

1977 Evaluation of PL-480 Title II Feeding Programs in Honduras.

CONSUPLANE

(Consejo Superior de Planificacion Economica)

1979 Evaluacion de las Areas de Prioritarias de Problema Nutricional de Honduras y sus Posibles Soluciones. Vol. I: Resumen. Tegucigalpa, 1975.

CONSUPLANE Technical Secretariat

1975 Nutrition Assessment: Honduras. Tegucigalpa.

CONSUPLANE, Technical Secretariat

1975 Nutrition Assessment: Honduras, Volume I, Summary. Tegucigalpa.

CONSUPLANE

1977 El Problema Alimentario y Nutricional en Honduras y su Nuevo Enfoque. Tegucigalpa.

CONSUPLANE/SAPLAN

1977 Sistema de Vigilancia Alimentaria y Nutricional de Honduras. Tegucigalpa.

CONSUPLANE

1978 Plan Nacional de Desarrollo 1979-1983, Plan de Alimentacion y Nutricion (NPFN). Tegucigalpa.

CONSUPLANE/SAPLAN

1980 Definicion de la Canasta Basica de Alimentos para la Republica de Honduras. May 1980.

Flores, M.

1977 Dietetic Profiles According to the Socioeconomic Situation in Honduras. Guatemala City, Guatemala: INCAP.

Gordon, A. J., and Shepard, D. S.

1982 Village health workers in Honduras: A Teaching case. Boston, MA: Center for Analysis of Health Practices and Department of Health

Policy and Management, Harvard University School of Public Health, April.

INCAP

1972 Nutritional Evaluation of the Population of Central America and Panama: Regional Summary. Washington DC: USGPO.

Nelson, D. P., and Miller, R. I.

1978 A Management Information System for Food Distribution in Honduras: An Exercise in Self-Control. Community Systems Foundation, November 1978.

O'Gara, C.

1982 Midterm Report on Study of Infant Feeding Practices in Tegucigalpa, Honduras. Tegucigalpa: Funded under USAID contract no. 931-1010; March 26, 1982.

Rusch, W. H., and Vitale, J. J.

1978 INCAP/ROCAP Regional Nutrition Project: Mid-Project Evaluation. McLean, Virginia, U.S.A.: American Technical Assistance Corporation.

Stamper, M.

1977 Population and Planning in Developing Nations: A Review of Sixty Development Plans for the 1970s. New York: The Population Council, 1977.

Teller, C .H., and Diaz, E.

1977 Catalogo demografico para la utilizacion en la planificacion nutricional en Centroamerica y Panama. Guatemala: Instituto de Nutricion de Centro America y Panama (INCAP).

U.S.D.H.E.W.

1979 Honduras Syncrisis (Revised). Office of International Health, Public Health Service, Department of Health, Education, and Welfare, March 1979.

Zuniga, M.

Evaluacion del Estado de la Poblacion, Menor de Cinco Anos de la Region Sanitaria No. 3 de Honduras. Guatemala City: INCAP.

* * *

Academy for Educational Development

1982 Patrones de la Lactancia Materna en un Area Rural de Honduras, September.

BIBLIOGRAPHY (Cont.)

Booth, E. M.

- 1983 AMA-MAS: A Radio Course on Breastfeeding. Academy for Educational Development, September.

Comision Multisectorial

- 1983 Informe sobre la Situacion Actual de la Lactandia Natural y Propuestas de Acciones para su Promocion en Honduras, prepared for the Seminario Regional Sobre Promocion de la Lactancia Natural en Centro America, Panama, y la Republica Dominicana, Isla Contadora, Panama, April.

Dewalt, B.

- 1983 The cattle are eating the forest. Bulletin of the Atomic Scientist 39:18-23.

Martorell, R, Kendall, C, and Foote, D. R.

- 1982 Growth and poverty in Honduras, presented at the 52nd annual meeting of the American Association of Physical Anthropologists.

O'Gara, C.

- 1983 Evaluation Plan for the Proalma Project and Report on Baseline Data Collection, USAID, Tegucigalpa, Honduras.

Practicing Anthropology

- 1983 Farming Systems Research in Honduras and the Sudan, 5(3).

Thompson, K. S.

- 1983 Household Food Use in Three Rural Communities in Southern Honduras, Master's thesis, Department of Anthropology, University of Kentucky.

Thompson, K., deWalt, K., and Fordham, M.

- 1982 Sorghum as human food in southern Honduras. Farming Systems Research in Southern Honduras: Report #1. College of Agriculture, University of Kentucky.

Westinghouse Health Systems.

- 1981 Honduras: encuesta Nacional de Prevalencia del Uso de Anti-Conceptivos: Resultados Generales. Public Applied Systems Division.