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BASIS FOR AN ACTION PLAN FOR NUTRITION IN HEALTH

HONDURAS TRIP REPORT

AUGUST 28 - SEPTEMBER 2, 1988

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APPENDICES

I. BACKGROUND

USAID/HONDURAS requested the Academy for Educational Development's Nutrition Communication Project (NCP) to provide short-term technical assistance to:

- update the assessment of the nutritional situation of the country prepared by the NCP Assessment Team (May 1988) as more definitive results became available from the 1986 National Nutrition Survey (NNS),
- outline an action plan for the nutrition component of Health Sector II.

Senior Medical Nutritionist, Dr. Jose O. Mora from Logical Technical Services Corp., provided the assistance from August 28 to September 2. This action plan will be worked out in detail later on as part of integrated nutrition support for Child Survival, which would include nutrition in health interventions, as well as actions to enhance the nutritional impact of agriculture, rural development and employment generation programs. USAID has forseen to review the Mission's Child Survival and Agricultural Sector Strategies, particularly with respect to nutrition considerations.

USAID was prompted to speed up the design of its nutrition action plan by the release of preliminary results of the 1986 National Nutrition Survey (NNS) which suggested that high rates of moderate and severe malnutrition in children had not improved since 1966. The design of the Nutrition Action Plan is to be based on an updated assessment of the extent of the problem and identification of the variables most closely linked to malnutrition. Of particular concern will be understanding why malnutrition levels did not appear to be responding to economic and health improvements.

The task of the consultant included examining the most recent results available from the 1966 and 1986 NNSs with Ministry of Health (MOH) staff, especially from the Science and Technology Unit (STU), as well as reviewing pertinent documents, and holding interviews with key health sector personnel from the MOH, USAID, and PVOs.

Strategies and approaches to increase the nutritional impact of agriculture and rural development projects will be examined later on with the assistance of an agricultural development expert. Although not included explicitly as one of the nutritional interventions in health, they will become an important element in the nutrition action plan that will be implemented in coordination with the agricultural sector.

II. UPDATED ASSESSMENT OF THE NUTRITIONAL SITUATION IN HONDURAS

A. Nutritional situation in 1966

Nutritional deficiencies have for years been among the most serious public health and development problems in Honduras. A National Nutrition Survey conducted in 1966 by INCAP (1) showed high prevalences of energy-protein malnutrition (EPM) and vitamin A deficiency, particularly among children under five years of age. The 1966 NNS found an overall prevalence of global malnutrition of 62.8% in children under five years, using the Gomez classification method and the NCHS reference values (2); 19.7% of them were classified as moderately to severely malnourished*. Iron deficiency anemia was also highly prevalent, especially among young children and pregnant women.

Biochemical indication of Vitamin A deficiency was found in about 40% of the children under 5 years, and 30% of those under 15 years. Among rural families, 57% consumed less than 25% of the recommendations, and only 6% had adequate levels of vitamin A intake. Endemic goiter was also found to be an important problem, with a national prevalence of 17% in the general population.

B. Nutritional situation in 1986 and changes from 1966.

Little was known about the trend in the nutritional situation between 1966 and 1986 when the second NNS and an Epidemiology and Family Health Survey were carried out. Preliminary tabulations of the NNSs seemed to indicate that the nutritional status of children in Honduras had not changed significantly since 1966. This would suggest either that nutrition and related programs undertaken throughout the interim period have not had a measurable impact on the nutritional situation, or that the serious social, economic and political crisis affecting Honduras and the whole Central America Region in the present decade may have reversed any positive trend and neutralized potential program effects, or both. The lack of congruency between the apparent persistence of high levels of malnutrition in children and the reported improvements in other social and health indicators was especially puzzling.

Final tabulations are now available from the 1986 NNS (3) that allow a more accurate assessment of the current nutritional status of children. Comparisons with the 1966 NNS are more problematic, however. From a detailed review of the methodologies used in the two surveys, including sampling frames and procedures, and methods for data collection and analysis, the consultant and the STU concluded that the sampling frames and

* The official survey report published in 1969 (1) indicated an overall prevalence of 76%, based on the Iowa reference values that are not currently used.

procedures of the 1966 and 1986 NNSs are not strictly comparable, thus limiting the comparability of the two studies.

It is unfortunate that the 1966 NNS used a less than adequate sampling frame, taking localities with health services as the sampling units, and restricting data gathering to localities accessible by road (only about 70% of those selected were covered). On the contrary, the 1986 NNS used census sectors as the sampling units, and ensured high coverage (above 95%) of a large enough, randomly selected sample (3340 children under five years of age), thus the results of the survey may be applicable to the total population.

The limited representativeness of the sample selected in 1966 is compounded by incomplete coverage due to accessibility problems, and by a relatively small sample size (657 children under five years of age), restricting analytical possibilities. It seems very likely that the 1966 sample was somewhat biased to under-represent population groups living away from the road system, and presumably at greater risk of malnutrition; therefore, it would not be unreasonable to suggest that the nutritional situation in 1966 was probably more serious (e.g., higher rates of child malnutrition, country-wide) than may be inferred from the NNS data.

Even under the assumption of adequate comparability, the use of different analytical methods has created some confusion leading to the impression that no changes in the nutritional status of children occurred throughout the 20-year period between 1966 and 1986. The assumption of comparability would probably bias the comparisons toward under-estimating or not detecting eventual positive changes, as a consequence of the probably under-estimation of baseline prevalence rates. However, when adequate comparability is assumed and the same analytical methods are used for estimating the prevalence of child malnutrition on the basis of anthropometric indicators, it appears that an important improvement occurred over the past 20 years in the nutritional status of children in Honduras. This is the case when comparing the same indicators by means of identical methods, irrespective of the methods employed.

Table 1 shows a comparison of the percent prevalence of energy-protein malnutrition in children under five years of age in 1966 and in 1986, applying the WHO classification method (4) to the three most commonly accepted anthropometric indicators of nutritional status. The results were obtained by using the computer software package developed by the Center for Disease Control in Atlanta, Georgia (USA) for the analysis of anthropometric measurements in nutritional surveys (5), which takes the NCHS population data as the source of international anthropometric reference values, as recommended by WHO.

The prevalence of global malnutrition, expressed as the proportion of cases below -2.0 standard deviations (z scores) of

Table 1. Changes in the prevalence (%) of energy-protein malnutrition* in children under five years of age, from 1966 to 1986, by type of nutritional indicator, Honduras.

Type of indicator	Percent prevalence		Difference 1966-1986	
	1966	1986	Absolute	Relative
Weight-for-age				
(Global malnutrition)	28.5	20.6	-7.9	-27.7
Height-for-age (Chronic malnutrition: stunting)				
	46.7	33.9	-12.8	-27.4
Weight-for-height (Acute malnutrition: wasting)				
	3.9	1.9	-2.0	-51.0

* WHO classification method with cut-off points at -2.0 Z scores.

Source: Barahona, I. et al. Encuesta Nacional de Nutricion, Honduras, 1987. Cuadros de Frecuencias por Regiones de Salud y Nacionales. Unidad de Ciencia y Tecnologia, Direccion de Alimentacion y Nutricion. Publicacion Cientifica 0200-07-88. Tegucigalpa, Julio de 1988.

the reference population (WHO recommended cut-off point) changed from 28.5% in 1966 to 20.6% in 1986, a relative reduction of 27.7% in the 20-year period, or an average of 1.38% per year; in absolute terms, the reduction amounted to 7.9%. Similarly, the prevalence of chronic malnutrition (stunting), estimated by applying the same criterion to the height-for-age indicator, dropped from 46.7% to 33.9%, that is, a relative decline of 27.4% or 1.37% per year; in absolute terms, the reduction was 12.8%. Acute malnutrition (wasting) also went down from 3.9% to 1.9%, or 51%, with an absolute drop of 2.0%.

Changes are consistent across age groups and anthropometric indicators, and the age patterns are similar. Improvements are seen in all age groups, especially in the group 0-11 months, and in all anthropometric indicators. In both surveys, the prevalences of global and chronic malnutrition are relatively low in the first year, show a dramatic rise in the second year, and tend to remain stable afterwards (Tables 2 and 3). Acute malnutrition exhibits a well known pattern, affecting mostly children in the second year of life; it is now relatively infrequent in other age groups (Table 4).

In 1983, the World Health Organization, as part of a "methodology for measuring change in nutritional status" with particular reference to evaluating the nutritional impact of supplementary feeding programs (6), suggested using either one or two standard deviations under the reference median (Z scores) as a cut-off point for estimating the prevalence of child malnutrition, provided that the resulting figures are adjusted by subtracting false positives, that is, the proportion of cases that would be expected to fall under either cut-off point when applied to the normal distribution of reference values. Although such suggestion has not been widely accepted for use in population surveys*, the WHO adjusted method with a one Z score cut-off had also been used, in addition to the conventional WHO method, in the analysis of the 1966 and 1986 NNSs. The mix of tables, not clearly labeled, which were included in the initial package of tabulations appears to be the source of the confusion regarding whether or not nutritional status improved in the last two decades.

Even when using the WHO adjusted method, a positive change in the prevalence of child malnutrition between 1966 and 1986 can be detected (Table 5), although obviously the reduction is of a lesser magnitude than when estimated on the basis of the conventional WHO method. It is a well known fact in Epidemiology that, as a result of effective interventions or changes in key intervening variables, the most affected are likely to experience greater improvement than the least or not affected, thus in

* This is because different cut-off points produce disparate prevalence rates, as a result of the adjustment ignoring false positives, thus creating confusion as to the true values.

Table 2. Changes in the prevalence (%) of global malnutrition* in children under 5 years of age from 1966 to 1986, by age group, Honduras.

Age group (months)	Percent prevalence		Difference 1966-1986	
	1966	1986	Absolute	Relative
0 - 11	15.6	8.2	-7.4	-47.4
12 - 23	36.2	27.9	-8.3	-22.9
24 - 35	32.1	24.0	-8.1	-25.2
36 - 47	28.0	20.3	-7.7	-27.5
48 - 59	30.0	21.1	-8.9	-29.7
Total	28.5	20.6	-7.9	-27.7

* Weight-for-age Z-scores below -2.0.

Source: Barahona, I. et al. Encuesta Nacional de Nutricion, Honduras, 1987. Cuadros de Frecuencias por Regiones de Salud y Nacionales. Unidad de Ciencia y Tecnologia, Direccion de Alimentacion y Nutricion. Publicacion Cientifica 0200-07-88. Tegucigalpa, Julio de 1988.

Table 3. Changes in the prevalence (%) of chronic malnutrition or stunting* in children under five years of age, between 1966 and 1986, by age group, Honduras.

Age group (months)	Percent prevalence		Difference 1966-1986	
	1966	1986	Absolute	Relative
0 - 11	23.9	9.3	-14.6	-61.1
12 - 23	54.1	36.1	-18.0	-33.3
24 - 35	46.5	31.1	-15.4	-33.1
36 - 47	47.1	45.0	- 2.1	- 4.5
48 - 59	46.7	47.1	+ 0.4	+ 0.9

* Height-for-age Z-scores below -2.0.

Source: Barahona, I. et al. Encuesta Nacional de Nutricion, Honduras, 1987. Cuadros de Frecuencias por Regiones de Salud y Nacionales. Unidad de Ciencia y Tecnologia, Direccion de Alimentacion y Nutricion. Publicacion Cientifica 0200-07-88. Tegucigalpa, Julio de 1988.

Table 4. Changes in the prevalence (%) of acute malnutrition or wasting* in children under five years, between 1966 and 1986, by age group, Honduras.

Age group (months)	Percent prevalence		Difference 1966-1986	
	1966	1986	Absolute	Relative
0 - 11	4.3	1.4	-2.9	-67.4
12 - 23	8.6	5.5	-3.1	-36.0
24 - 35	1.8	1.6	-0.2	-11.1
36 - 47	4.3	0.5	-3.9	-90.7
48 - 59	0.8	0.1	-0.7	-87.5

*Weight-for-height Z-scores below -2.0.

Source: Barahona, I. et al. Encuesta Nacional de Nutricion, Honduras, 1987. Cuadros de Frecuencias por Regiones de Salud y Nacionales. Unidad de Ciencia y Tecnologia, Direccion de Alimentacion y Nutricion. Publicacion Cientifica 0200-07-88. Tegucigalpa, Julio de 1988.

Table 5. Changes in the prevalence (%) of malnutrition in children under five years of age from 1966 to 1986, as estimated by the WHO adjusted method*, by nutritional indicator, Honduras.

Type of indicator	Percent prevalence		Difference 1966 - 1986	
	1966	1986	Absolute	Relative
Weight-for-age	43.1	38.0	5.1	-11.8
Height-for-age	60.0	44.7	15.3	-25.5
Weight-for-height	4.7	3.3	1.4	-29.8

* Cut-off point at -1.0 Z-scores, with adjustment for false positives.

Source: Barahona, I. et al. Encuesta Nacional de Nutricion, Honduras, 1987. Cuadros de Frecuencias por Regiones de Salud y Nacionales. Unidad de Ciencia y Tecnologia, Direccion de Alimentacion y Nutricion. Publicacion Cientifica 0200-07-88. Tegucigalpa, Julio de 1988.

nutritional anthropometry the higher the cut-off point, the less likely to detect a significant change.

The decline in the prevalence of global malnutrition is seen even when using the Gomez classification, with its relatively high cut-off point at 90% of the reference median. The overall prevalence slightly diminished from 62.8% to 57.0% (or 9.2%), but moderate-to-severe malnutrition dropped significantly from 19.7% in 1966 to 13.3% in 1986 (a reduction of 32.5%).

The above described positive changes in the nutritional status of Honduran children under five years are commensurate with the significant improvements observed in other social and health indicators, despite the economic crisis of the present decade which produced a significant decrease in income levels and a concomitant decrease of resources for public health and basic health services. During the period 1972-1986, life expectancy rose from about 53 years to 62 years, and between 1960 and 1985 the crude death rate dropped from 20 to 9 per 1000 (7). As shown in Table 6, infant mortality steadily declined from 127/100 in 1967 to 63/1000 in 1984 (a 50% reduction). Child mortality also halved from 232/1000 in 1960 to about 116/1000 in 1985 (7). Between 1980 and 1986, a 40% reduction in diarrhea-related mortality has been reported (yet diarrhea accounts for about one-fourth of infant deaths), as well as a 40% decline in the number of cases of malaria (8). Contraceptive prevalence experienced a modest increment, from 27% in 1981 to 35% in 1984 (9), thus fertility and population growth rates had a relatively small reduction (from 6.5% to 5.5% and from 3.5% to 3.1%, respectively).

The 1986 NNS (3) found immunization levels above 85% for measles, DPT and polio, and 83% for BCG, which represent a substantial increase from baseline levels of only 33% to 52% in 1981. Advances in health infra-structure have also been remarkable: from 1978 to 1987, health centers attended by auxiliary nurses increased from 379 to 533, health centers with physicians from 76 to 116, and hospitals from 16 to 21. Also, access to water and availability of sanitary facilities in the rural population dramatically increased from 11-12% in 1973 to 52-54% in 1987 (9).

C. Regional ranking of nutritional risk

High-risk geographical areas for malnutrition have been identified. Table 7 displays the 1986 NNS prevalence rates of malnutrition (conventional WHO method) by health regions and by nutritional indicators. The four western and southern regions 5, 1, 4 and 2 consistently show the highest rates of malnutrition.

When a nutritional risk score system based on the prevalence of global, chronic and acute malnutrition was used with the 1986 NNS results, the following regional ranking of nutritional risk resulted (maximum score of 9):

Table 6. Estimated Infant Mortality Rates (IMR) from 1967 to 1984, Honduras.*

Years	Source of information	IMR/1000
1967/68	EDENH/I	127
1971/72	EDENH/I	117
1972	ENPA/81	97
1973	ENSM/84	92
1975	ENPA/81 - EDENH/II	92 - 98
1976/78	ENPA/81	90
1978/80	EDENH/II	85
1981	ENSM/84 - EDENH/II	73 - 83
1982	ENSM/84	69
1983	ENSF/87	64
1984	ENSF/87	63

* Indirect estimations, except for 1971/72 - EDENH/I.

Sources: Encuesta Nacional de Salud Materno-Infantil de Honduras (ENSMI, 1984). Ministerio de Salud Publica. Asociacion Hondurena de Planificacion de Familia. Tegucigalpa, 1986.

Encuesta Nacional de Epidemiologia y Salud Familiar, ENESF. Honduras, 1987. Tabulados preliminares. Ministerio de Salud Publica, Unidad de Ciencia y Tecnologia. Tegucigalpa, 1988.

Table 7. Prevalence (%) of malnutrition in children under five years of age, as estimated by the WHO conventional method*, by health region and nutritional indicator, NNS, Honduras, 1986.

Health Region	Weight-for-age	Height-for-age	Weight-for-height
5	32.9	51.2	2.1
1	25.4	37.5	2.2
4	26.6	33.5	2.8
2	19.4	40.8	1.6
3	19.7	33.2	1.6
7	19.2	32.9	1.4
6	17.8	30.1	2.3
Metropolitan			
Tegucigalpa	7.9	17.2	1.6

* Cut-off point at -2.0 Z-scores.

Source: Barahona, I. et al. Encuesta Nacional de Nutricion, Honduras, 1987. Cuadros de Frecuencias por Regiones de Salud y Nacionales. Unidad de Ciencia y Tecnologia, Direccion de Alimentacion y Nutricion. Publicacion Cientifica 0200-07-88. Tegucigalpa, Julio de 1988.

Health Regions - Departments

Risk Score

5 - Lempira, Copan, Ocotepeque	9 Extremely high
1 - El Paraiso, Morazan non metropolitan	8 Very high
4 - Choluteca, Valle	8 Very high
2 - Intibuca, La Paz, Comayagua	7 High
7 - Olancho	6 Medium
3 - Santa Barbara, Cortes, Yoro	6 Medium
6 - Atlantida, Colon	5 Low
Metropolitan Tegucigalpa	3 Low

Again, the highest risk area includes Health Regions 5, 1, 4 and 2, that is, the western and southern half of the country, as is shown in the map on page 14. Region 5 is consistently the worst off. A recent assessment of height in primary school children attending first grade country-wide (12) revealed that about 40% of them were stunted (below -2 Z scores), and allowed the identification of high risk departments, beyond the regional disaggregation (Table 8). The highest risk departments are Lempira, Intibuca, Santa Barbara, Copan and La Paz, from health regions 5, 2 and 3. Apparently, areas of region 3, other than metropolitan San Pedro Sula, may also be considered at high risk.

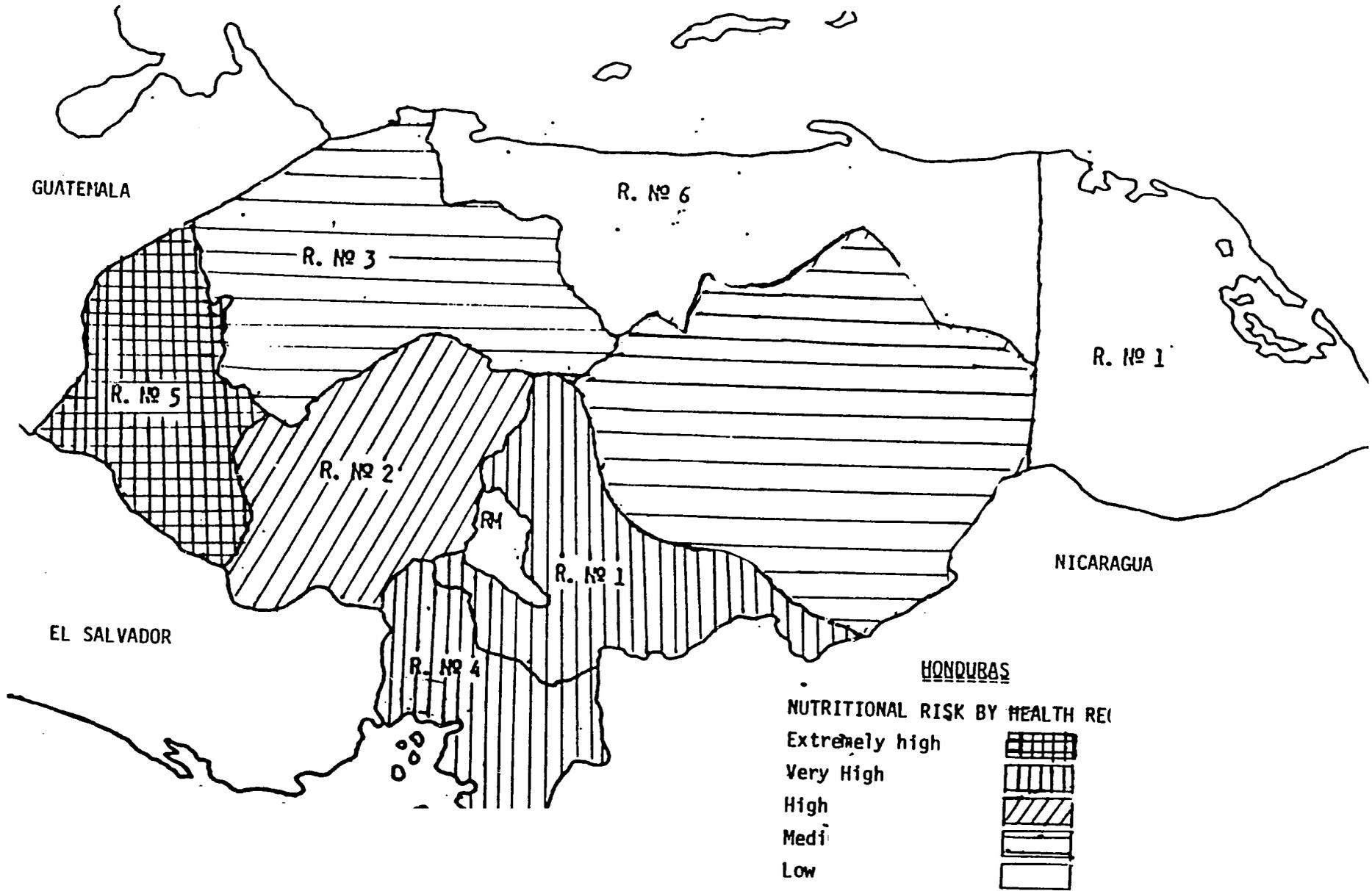
D. Dietary intake of children under five years of age

The 1986 NNS found deficient energy intake among children 18 to 59 months (dietary intake of children younger than 18 was not assessed). The average energy deficit ranged between 18% (24-35 months) and 30% (48-59 months). Mean protein intake appeared to be adequate at all ages, whereas iron intake was deficient, especially in younger children. The dietary surveys showed that the average Vitamin A intake of children 18-50 months old reached only between 67% (36-47 months) and 81% (24-35 months) of the estimated needs. However, mean values are of limited value for assessing actual dietary intake of population groups; distributions were not available yet.

E. Specific deficiencies

The laboratory results of Vitamin A in serum will not be available before at least 6 months; based on the results of the dietary surveys, a sizeable proportion of low serum values in children would be expected. Vitamin A deficiency appeared to be under control in the late 1970s through compulsory sugar fortification (instituted in 1976); an assessment carried out in 1980 (13) found low serum values of Vitamin A in only 2.8% of the children, as compared to about 40% in 1966. Unfortunately, in spite of government regulations, Vitamin A fortification is not currently being enforced.

Iron intake by children was also found to be low in 1986 (3), especially among children 18-23 months (only 60% of the recommendations); unfortunately, children under 18 months, who are usually at the highest risk of iron deficiency, were not



GUATEMALA

R. No 6

R. No 3

R. No 1

R. No 5

R. No 2

RM

R. No 1

NICARAGUA

EL SALVADOR

R. No 4

HONDURAS

NUTRITIONAL RISK BY HEALTH REI

Extremely high

Very High

High

Medi

Low

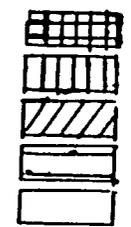


Table 8. Ranking of the Departments by nutritional risk, based on the prevalence (%) of low height-for-age or stunting* in primary school children, Honduras, 1986.

Low risk (below 20%)	Moderate risk (20 to 35%)	High risk (36 to 50%)	Very high risk (above 50%)
Islas de la la Bahia	Gracias de Dios Francisco Morazan Valle Cortes Choluteca Atlantida	Olancho Yoro Colon El Paraiso Comayagua Ocotepeque	La Paz Copan Santa Barbara Intibuca Lempira

* Height-for-age Z-scores below -2.0.

Source: Ministerio de Salud Publica de Honduras. Informe presentado at II Seminario Sub-Regional Aporte de los Censos de Talla de Escolares a los Sistemas de Vigilancia Alimentario-Nutricional. Antigua, Guatemala, 1987.

included in the dietary assessments. The prevalence of anemia (low hemoglobin levels) among children 1-4 years reached 16.5%, with the highest rates in health regions 7 (30.2%), 6 (25.7%), 5 (22.5%) and 1 (18.3%). The total prevalence of anemia in women 10-44 years amounted to 15%, with no major differences by region.

The 1986 NNS registered an 8.8% prevalence of endemic goiter in the school age population (conventionally used for endemic goiter prevalence surveys), of which about 90% were grade 1-a (WHO classification method); unfortunately, comparisons with the situation in 1966 cannot be made, because the reported prevalence figure of 17% refers to the total population. A search of the original 1966 files has been requested from INCAP to look for prevalence rates for the school-age population. At any rate, endemic goiter appears to have dropped significantly, and it could be further reduced through more strict law enforcement of iodine fortification of salt. The 1966 survey found that about 70% of the salt specimens collected from homes contained less than the minimum fortification level of 60 p.p.m. established by law.

F. Breastfeeding and infant feeding patterns

As in most developing countries, a declining trend was observed early in this decade in the traditionally high frequency and duration of breast-feeding, particularly in urban areas. It was also noticed that hospital institutional policies and practices in pre- and perinatal health services discouraged breastfeeding. This led to special efforts to reverse the trend by promoting changes in hospital and medical practices that were detrimental to breastfeeding.

As a result of these actions, positive changes were brought about in hospital practices related to pre- and perinatal care, such as institutionalization of rooming-in and elimination of bottle feeding in newborns, as well as training and motivation of physicians, obstetricians and pediatricians to encourage and provide adequate technical support to breastfeeding. The proportion of urban women initiating breastfeeding increased from 80% in 1980 to 86% in 1984 (94% to 95% in rural women). Mean duration of breastfeeding also increased in urban women from 9.6 months in 1981 to 12.6 months in 1987 (11) and in rural women from 17.7 to 19.5 months in the same interval.

Prolonged duration of breastfeeding by itself is not an indicator of healthy nutritional practices, though. Despite the above mentioned significant achievements, the duration of exclusive breastfeeding is remarkably short, and inappropriate weaning practices remain a major problem, as evidenced by the 1986 Epidemiology and Family Health Survey (11), as seen in tables 9 to 11. Foods other than breast milk are introduced as early as in the first month in a large proportion of cases. As an example, other milks are given to about half of the infants at 1-2 months, and to about 60% at 3-4 months (Table 9). Very early

TABLE 9

Percentage of Women with a Child Less than 2 Years of Age at the Time of Interview that Have Begun Supplementary Feeding by Type of Food and Age of the Child

Epidemiology and Family Health Survey, Honduras, 1987

Type of Food	Age of Child in Months				
	<1	1-2	3-4	5-6	7-24
Water	43.4	61.2	83.6	89.2	99.1
Other milks	31.4	48.3	59.0	65.5	78.1
Coffee/tea	11.7	21.5	33.7	47.6	77.5
Mush/porridge	10.9	16.0	29.7	44.1	68.5
Juice	7.3	21.9	48.5	64.4	82.4
Broth	1.4	14.7	52.7	80.5	98.3
Strained foods	0.7	8.0	34.1	58.6	79.7
Solid food	0.0	1.8	20.8	53.5	93.9
No. of Women	(136)	(325)	(262)	(279)	(2197)

Source: Encuesta Nacional de Epidemiología y Salud Familiar, ENESF. Honduras, 1987. Tabulados preliminares. Ministerio de Salud Pública, Unidad de Ciencia y Tecnología. Tegucigalpa, 1988.

TABLE 10

Percentage of Women with a Child Less than 2 Years of Age at the Time of Interview that Have Begun Supplementary Feeding by Type of Food, Age and Residence

Epidemiology and Family Health Survey, Honduras, 1987

Type of Food	Age of Child in Months									
	<1		1-2		3-4		5-6		7+	
	U	R	U	R	U	R	U	R	U	R
Water	65.0	34.4	79.0	53.3	93.1	80.0	95.8	87.0	100.0	98.7
Other milks	58.5	19.8	69.7	38.9	78.7	51.3	82.9	59.3	90.5	72.7
Coffee/tea	11.9	11.6	17.0	23.6	25.3	37.0	40.5	50.0	65.7	82.7
Mush/porridge	11.9	10.4	14.0	16.9	29.3	29.8	42.7	44.7	68.6	68.7
Juice	9.5	6.3	32.3	17.3	68.0	40.8	84.0	57.5	94.3	77.1
Broth	0.0	2.1	16.0	14.2	62.7	48.7	90.7	76.9	98.7	98.1
Strained foods	2.4	0.0	12.1	6.2	57.3	25.0	77.6	51.9	87.4	76.3
Solid foods	0.0	0.0	0.0	2.7	28.0	18.0	52.7	53.7	93.5	94.1
no. of Women	(40)	(96)	(100)	(225)	(72)	(190)	(72)	(207)	(673)	(1524)

U = Urban

R = Rural

Source: Encuesta Nacional de Epidemiología y Salud Familiar, ENESF. Honduras, 1987. Tabulados preliminares. Ministerio de Salud Pública, Unidad de Ciencia y Tecnología. Tegucigalpa, 1988.

TABLE 11

Distribution of Women with a Child Less Than 2 Years of Age at the Time of Interview by Breastfeeding Practices, Supplementary Feeding and Age of the Child

Epidemiology and Family Health Survey, Honduras, 1987

Feeding	Age of Child in Months					
	All Ages	<1 Month	1-2	3-4	5-6	7+
Breastfeeding						
Exclusive	4.7	43.9	20.9	5.9	3.2	0.0
Breast & other milks	5.9	7.6	6.0	4.3	6.8	5.8
Breast & other foods*	21.8	25.0	31.0	33.6	31.2	17.7
Breast, other milks and other foods*	35.7	22.7	37.0	48.6	44.4	33.7
Not breastfeeding	31.9	0.8	5.1	7.5	14.3	42.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
No. of Women	(3170)	(132)	(316)	(253)	(279)	(2190)

*Includes water, juice, coffee, teas, broth, porridge, strained or solid foods.

Source: Encuesta Nacional de Epidemiología y Salud Familiar, ENESF. Honduras, 1987. Tabulados preliminares. Ministerio de Salud Pública, Unidad de Ciencia y Tecnología. Tegucigalpa, 1988.

mixed feeding is common, especially in urban areas where other milks are given to about 80% of the infants at 3-4 months (Table 10).

About 44% of the infants are exclusively breastfed for less than one month, 21% for 1-2 months, and only 6% for 3-4 months. Most women initiate breastfeeding and usually prolong it for more than one year, especially in rural areas; however, its potential health and nutritional benefits are minimized by the early introduction of foods other than breast milk. Mixed feeding was reported in 55% of the infants within the first month, in 74% between 1 and 2 months, and in 87% between 3 and 4 months (Table 11). Furthermore, weaning diets appear to be not only of low nutritional density, but also frequently contaminated.

A number of KAP studies on breastfeeding and infant feeding have been carried out over the past five years. Unfortunately, either they have not been analysed yet or their results are not available. There is a need to put them together and examine them in an integrated and comprehensive manner; it is also important to carry out qualitative ethnographic studies on infant feeding and weaning practices in order to better understand their cultural, economic and other determinants, as a basis for designing effective interventions to improve them. Promotion of exclusive breastfeeding will be important; and these studies can identify the constraints to its practice as well as factors which would help to promote it.

III. PAST AND CURRENT NUTRITION PLANS AND PROGRAMS

A. Policies and Activities: 1950-1986.

General concern about the nutritional problems in Honduras began in the early 1950s when a series of small-scale studies conducted by INCAP heightened public awareness and led to the creation of the "Unidad de Nutricion" within the Ministry of Government, Development and Health. This unit was later transferred to the Secretariat of Public Health and Social Assistance. Detection and treatment of malnourished children and food distribution programs, such as the CARE school-feeding program, became the predominant approach to nutrition problems in the 1960s. Although there were some efforts to institute a coordinated national nutrition policy, nutrition was not a major priority until the results of the 1966 NNS were reported in national seminars. By 1968, nutrition planning was formally designated an activity of the central government and the National Food and Nutrition Council (CNAN) was created. CNAN was a multi-sectoral body in charge of strengthening government policies for food, nutrition and related activities. In 1971, CNAN was integrated with the National Economic Planning Council (CONSUPLANE), and developed a number of food and nutrition policies that were incorporated in the 1974/78 National Development Plan (14).

In 1976, after a nutritional assessment concluded that the nutritional status of the population had not improved since 1966 (15), the System for Analysis and Planning of Food and Nutrition (SAPLAN) was created within CONSUPLANE. This group was given a major responsibility for nutrition planning, coordination and evaluation (14). SAPLAN was not directly responsible for implementing nutrition programs, but was in charge of administering a 5-year (1976-1981) USAID nutrition grant/loan; and receiving and channeling funds to a number of sectoral agencies responsible for direct project implementation. Major project activities included: analysis, planning and evaluation, e.g., establishing a national nutrition surveillance system and conducting a series of studies on the nature and causes of nutrition problems; nutrition education, involving a substantial amount of training and a number of radio spots on nutrition; water supply and environmental sanitation; and some small, community-level pilot projects.

The results of SAPLAN's activities were mixed, with few sound project achievements. Major efforts included completion of a national study on food and nutrition in 1978/1980, and establishment of a nutritional surveillance system in the Danli area (16). It was, unfortunately, never expanded nation-wide. Most of the SAPLAN's activities ended with the end of AID funds in 1981. SAPLAN was dissolved in 1983 and replaced by a small coordinating unit within CONSUPLANE, in charge of administering an interagency committee on food distribution programs (the only nutrition programs continuing since the 1950s). Later on, INCAP and AID/ROCAP began working again on many of the same kinds of activities begun during the SAPLAN period (14).

In 1987, CONSUPLANE was reorganized as the Ministerio de Planificacion, Coordinacion y Presupuesto (SECPLAN). SECPLAN has formulated a National Food and Nutrition Plan (17) integrated to the 1987-1990 National Development Plan. The multisectoral approach contemplates a series of actions aimed at ensuring food security, the establishment of a national food and nutrition surveillance system, the formulation of a food and nutrition education program, and the promotion of community participation. Some specific intervention programs have also been designed whose financial support is still pending.

Hopefully, this new national food and nutrition plan will have strong political support from the central government to ensure that it will not become once again merely a "catalog of good intention." On the positive side, political commitment apparently has materialized in the creation of the National Directorate for Food and Nutrition within the Ministry of Health, thus raising the organizational status and, most probably, improving the financial situation of the formerly weak and poorly managed MOH Division of Nutrition. On the other hand, raising the status of the former Division of Nutrition to a level similar to that of the National Directorate for Health apparently has created some jealousies within the MOH.

Coordination between the different divisions responsible for nutrition related-activities is far from efficient, notably between the MCH Division and the new nutrition Directorate. Furthermore, the fact remains that nutrition planning and programs are still supported mainly by external donors, since at no time past or present has the government invested significant amounts of its own funds in nutrition improvement projects. Historically, therefore, the implementing organizations have been relatively weak and underfunded. Thus, there are few hopes of financial sustainability without continued external funding (13).

The new National Directorate for Food and Nutrition, headed by Ing. Manuel Antonio Caceres, an experienced agronomist and rural extensionist, will probably give emphasis to food production improvement projects, particularly self-sufficient projects for small farmers, as well as to the establishment of a food and nutrition surveillance system (an old dream of the Honduran nutritionists), some community nutrition education activities, improved targetting of supplementary feeding programs, and promotion of community participation. The new Directorate may be in a position to strengthen current nutrition activities and to develop new ones if it gets properly organized and becomes capable of translating theoretical thinking into concrete, clearly defined and well-designed implementation programs. The need for technical assistance in this regard is recognized by the current director and his staff.

The Department of Infant Health (DIH), MOH Division of Maternal and Child Health, under the direction of Dr. Jorge Humberto Melendez, a young and enthusiastic pediatrician, has been assigned major responsibilities for child survival interventions, and is actively working in the development of country-wide growth monitoring and promotion (GM/P) activities. GM/P is seen as the most suitable vehicle for the integration and targetting of child survival interventions and the implementation of community nutrition and health education. GM/P is in the very early phases of planning and many technical, logistical, and operational issues remain to be resolved. The DIH/MCH wants to request continued technical assistance from USAID throughout Health Sector II. Although UNICEF provides some support for GM/P, USAID Health Sector II will be the major source of funding.

B. Current nutrition activities

Most of the nutrition activities currently implemented in Honduras fall in the category of small regional or "demonstration projects" rather than national programs, except the PL-480 Food Distribution Program which is in operation country-wide.

Although National Food and Nutrition Plans have been formulated (15, 17), and they have usually been as comprehensive as the one recently designed by SECPLAN, at no time have such comprehensive national plans been put into full operation. The reasons for this are several, and range from chronic lack of

national resources and irregular provision of outside financial support, to insufficient political commitment, weak organizational structures, and poor technical and managerial capabilities in the public sector.

Three types of nutrition activities or projects currently being implemented deserve some consideration due to their implications for the design of a nutrition action plan within Health Sector II. These are the PROALMA/MOH Breast-feeding Support Project, the PL-480 Food Distribution Program, and a number of small-scale, community-oriented, demonstration projects carried out by some PVOs.

1. PROALMA/MOH Breastfeeding Support Project

This project, supported mostly by USAID, exemplifies the potential of well-planned and carefully implemented actions to improve specific nutrition problems. Significant improvements in breastfeeding practices have been achieved throughout the two implementation phases, PROALMA I (1982-1985) and PROALMA II (1986-1988), by means of a hospital-based, "top-down" clinical approach focused on effecting breastfeeding-supporting changes in hospital policies and practices through training and motivation of physicians, nurses and other health professionals.

Findings from the evaluation of the first phase (18) and preliminary results from the 1987 ENESF (11) indicate significant impact on the initiation and duration of breast-feeding, particularly in urban areas served by large hospitals where the project has been in operation. Further evidence of project impact will come from the current evaluation of PROALMA II. The project has been implemented by a technically competent and highly motivated staff, under an institutional agreement between the Ministry of Health, the Social Security Institute and the National Social Welfare Agency.

Despite the gains since 1982, a great deal remains to be done to raise the proportion of women exclusively breastfeeding for the first four months, so that the full benefits of breast-feeding for nutrition, diarrhea control and birth-spacing can be achieved. Given the serious problem of early weaning with nutritionally poor, contaminated foods, promoting universal exclusive breastfeeding up to four months and sound weaning practices in the community is as important as promoting and supporting a favorable institutional environment for the initiation and continuation of breastfeeding.

A third phase of this project has been proposed to be implemented through a recently created, private, no-profit organization (AHLACMA). New challenges for the breastfeeding support project include both the transition from a clinic-based to a community-based approach to expand its activities into the community as a whole, and a major new focus on developing effective means to improve weaning practices. Ideally, weaning

education and other promotional actions should be integrated as one of the key elements of growth monitoring and promotion activities. This will require a good deal of sound field research. Much stronger coordination will also be needed, both within the MOH and between this and other institutions and private voluntary organizations.

2. PL-480 Title II and Title I Projects

The PL-480 Title II program has operated for almost 30 years in Honduras, donating about 305 million tons of food for distribution through maternal/child health (MCH), food-for-work and disaster relief programs. PL-480 commodities are imported into Honduras through CARE (about 90%) and CRS. Currently about 116,000 children and pregnant and lactating women participate in the MCH programs, 6,000 people in food-for-work, and about 4,000 in refugee programs. An additional 350,000 school children receive supplementary beverages or snacks made with food donated under PL-480.

An evaluation of the MCH and school feeding PL-480 programs carried out in 1987 (19) concluded that the programs have had some beneficial impact on women and children. Although beneficiaries in MCH programs tend to be poorer and drinkers of the school beverage tend to come from poorer families, better targetting was recommended, particularly for programs carried out by the Social Welfare Agency, and the need for better clarification of program objectives, and incorporation of nutrition education within MCH programs was stressed.

PL-480 Title I provides concessional loans to the government for importation of agricultural commodities which are sold to the private sector at world prices. The local currency generated is then jointly programmed between the government and USAID to finance development activities. From 1985 to 1986, total imports have been about 400,000 tons of wheat, 10,000 tons of rice and 5,000 tons of tallow, which generated about 137 million Lempiras. Title I imports have risen rapidly, now accounting for about 80% of the total annual imports of wheat.

This program was also recently evaluated (20). Major conclusions are: currently wheat provides 12% of the country's protein intake and 10% of the calories, and its consumption is more widespread now, although heavily biased in favor of urban and upper income population groups; wheat imports have caused corn prices to decrease; local currency generations now represent about one-third of the net budget of the Ministry of Natural Resources (MNR) and about 56% of the net MNR budget funded from domestic revenues, without having led to a perceptible strengthening of the institution; and the program has resulted in considerable savings of foreign exchange for the country. Recommendations included an increase in wheat flour and wheat prices, concentration of local currency generated into fewer

programs for better control and development impact, and the implementation of a Title III program.

Food distribution programs have been by far the most regular and concrete nutritional interventions carried out in Honduras. Since the 1950s, the U. S. government has supported these programs under PL-480. There are also several other private and governmental food distribution programs in the country, which receive donations from the World Food Program (mostly for refugees and food-for-work feeding programs) and the European Economic Community. The nutritional impact of the donated food has never been thoroughly assessed, but there is little possibility that food distribution programs will be phased out in the near future. The country and the implementation institutions have become largely dependent on food donations.

3. PVO activities

Private Voluntary Organizations (PVOs) have played an important role in providing basic health services in some rural communities, including a few remote areas not served by MOH programs. PVOs have set up administrative systems and networks of promoters in rural communities, usually enjoy core staff financial support, and have experience in working well in rural communities or marginal urban areas. They have been involved for years in primary health care activities and child survival interventions, including vaccination, basic sanitation, potable water systems, health education, nutrition, growth monitoring, and family planning services, as well as in income generating community projects. Some of their demonstration programs have developed considerable operational field experience that will be of great use in the planning and implementation of community-based nutrition and PHC activities by other PVOs and, particularly, by the MOH.

C. USAID participation in nutrition activities

USAID/Honduras has a long history of participation and support to health and nutrition programs in Honduras. USAID has provided both technical and economic support, and has been effective in promoting and assisting major policy changes which have led to a significant shift in emphasis from hospital-based curative care toward preventive medicine and practice, with concentration on primary health care and emphasis on the country's poor (8).

The USAID/Honduras current health strategy emphasizes the importance of child survival services as key to reducing infant mortality and morbidity (9). The strategy is designed to assist the GOH to achieve its health objectives, e.g., to lower infant and child mortality rates and increase life expectancy through the delivery of a sustainable package of child survival and primary health care services. The strategy was planned for the 20-year period 1980-2000 to be implemented in three phases:

Phase I (1982-1988). This phase coincided with Health Sector I Project and has addressed the most pressing systems problems, such as the lack of effective management in the public health sector, and the planning and logistical services needed to maintain primary health care services operating efficiently. Health Sector I has undoubtedly contributed to the important health achievements described above.

Phase II (1988-1995). This phase encompasses the Health Sector II Project, which will focus on the sustained implementation of the past system's improvements at the regional and subregional level. Emphasis will be given to logistics, local programming (decentralized decision-making and management), health and management information systems, training, maintenance, and education/communication. Those elements of the child survival package which are least developed, such as nutrition (growth monitoring and targetted supplementary feeding) and acute respiratory infections will receive special attention. Greater participation in the health sector by private entities, particularly PVOs, is also contemplated.

Phase III (1995-2000). A Health Sector III Project will consolidate the gains of Phases I and II, by continuing to strengthen logistics, health and management information systems, local programming and financial management, and by expanding the delivery of technical primary health care and child survival services.

D. Other donors' programs

There are apparently abundant international financial resources for nutrition programs in Honduras, which may exceed the technical, operational and absorptive capacity of the public sector. International agencies currently providing and/or offering financial support for nutrition and related programs, besides USAID (ROCAP and Honduras), include the governments of France, West Germany, Canada, Switzerland, Spain and Japan, the European Economic Community (EEC), UNICEF, PAHO/WHO, FAO, UNDP, the United Nations Fund for Population Activities (UNFPA), the Central American Bank for Economic Integration (CABEI), the Interamerican Development Bank (IDB), and the World Bank.

Currently, IDB and the French government support construction and equipping of hospitals. IDB and the Swiss and West German governments support water and sanitation projects. The Japanese government funds malaria activities, and construction and equipping of rural health centers. UNICEF supports child survival activities, and expansion of primary health care services, whereas PAHO/WHO provides technical assistance in several health-related areas.

IV. OUTLINE OF AN ACTION PLAN FOR NUTRITION IN HEALTH

In spite of the improvements over the past 20 years, child malnutrition remains an important public health problem in Honduras, and infant and pre-school age mortality rates continue to be among the highest in the Americas. Children under the age of one year account for approximately 3.5% of the population yet account for over 25% of the total deaths. Rural/urban differences in child morbidity and mortality persist, since infant mortality has dropped to a larger extent in urban than in rural areas. Malnutrition is still the major underlying cause of child mortality. By increasing the risk of death from acute diarrhea, respiratory and other infections, malnutrition remains one of the most important obstacles to further and faster reductions in infant and pre-school age mortality.

Given the magnitude and the socio-economic implications of the nutrition problems in Honduras, as well as the high priority assigned to nutrition, both by the GOH in the National Development Plan and by USAID in Health Sector II, there is a need to formulate a detailed nutrition action plan based on the latest information available, to be implemented through Health Sector II and related health and other activities over the next seven years (1988-1995).

The USAID Health Sector II Project, to begin in October 1988, will build upon the foundations laid in Health Sector I, and will introduce additional elements, especially those child survival interventions that are currently least developed (9). Nutrition is clearly the most important of these relatively new elements, because of the implications of nutritional problems for child survival. Once large immunization coverage has been achieved and significant progress made in the control of diarrheal dehydration, prospects for continued reductions in infant and child mortality heavily rest on nutritional improvements, as well as on more effective prevention and control of diarrheal and acute respiratory infections. Nutrition also plays an important role in the prevention and control of infection through its impact on the immune response and on the severity and duration of disease.

Successful implementation and effectiveness of the nutritional interventions included in the child survival package is contingent upon the efficiency of health service support systems at the operational levels. These systems will ensure that the health staff, particularly at the primary health care level, will have the physical, technical, financial and promotional resources needed for institutionalizing sustainable health and nutrition care in the community. This is critical for most nutritional interventions, which are not amenable to vertical campaigns but need to be delivered on a continued basis with active community participation and permanent contact between the health workers and the mothers and families.

Efficient support systems, to be enhanced through Health Sector II, are a pre-requisite for effective nutritional interventions implemented through the health sector, thus the nutrition action plan lies on the assumption that the effectiveness of support systems will be substantially enhanced.

The nutrition action plan should include at least the specific elements outlined in Health Sector II (growth monitoring and promotion (GM/P), breastfeeding support, actions to improve infant feeding and weaning practices, improved targetting and effectiveness of food distribution programs) and, to the extent possible, maternal nutrition improvement interventions and Vitamin A and Iodine law enforcement and other actions, as well as some additional elements that represent linkages and require close coordination with sectors other than health. These elements would include specific measures to enhance the nutritional impact of agriculture, rural development and income generating programs, as part of a coordinated approach to improve the nutritional conditions of mothers and children.

A. Summary of nutrition problems and constraints

The major nutritional problems to be ultimately addressed by the action plan include infant and child energy-protein malnutrition, iron deficiency anemia and, probably, vitamin A deficiency. All these problems are known to have a significant impact on morbidity and mortality. The immediate determinants of these nutritional problems are known to be related to deficient dietary intake by mothers and children due to economic and educational constraints, and to high incidence of morbidity, particularly from infectious diseases. Maternal education and birth spacing have an enormous influence on both malnutrition and infant and child mortality rates, irrespective of socio-economic status. About one-third of all births occur within intervals shorter than 24 months.

Although the frequency and duration of breastfeeding in Honduras appear to be among the highest in Latin America, and their decline in urban areas is being for the most part adequately controlled, mother's dietary intake during pregnancy and lactation and infant feeding practices are usually inappropriate; these practices are especially problematic during the weaning period which frequently begins too early after a child's birth.

Inappropriate weaning practices contribute to both deficient nutritional intake by the child (energy, vitamin A and iron deficient intake) and increased risk of diarrheal infections. These, in turn, tend to further deteriorate the nutritional status of the child, especially when the dietary management of the disease is not adequate. Diarrhea is still the major cause of death and, probably, one of the major determinants of malnutrition, with an overall yearly incidence rate of about 5 episodes per child under five years of age.

Actions to tackle the problems above described face a series of basic and operational constraints that must be adequately addressed, the most important of which are:

1. Widespread poverty.

Honduras is one of the poorest countries in the western hemisphere and the poorest in Central America. About 60% of the population live in the rural area and less than 30% is concentrated in towns with 20,000 or more inhabitants. The socio-economic situation of the majority has been deteriorating, especially as a consequence of the economic crisis of the present decade. The growth of the Honduras gross domestic product per capita dropped from an average of 7% during the late 1970s to a negative rate of over 1% in the 1980s (21). The net international reserves and the absolute value of exports also decreased drastically, while the terms of trade deteriorated and the external debt reached historic proportions.

The concomitant increase in unemployment (27% in 1985) and poverty may have skewed even more drastically an already inequitable structure of income distribution. In 1980 the richest 20% of the Honduran population received about 60% of the national income, whereas the poorest 20% obtained less than 5% and had an average annual income of only \$80. The current minimum wage is \$2.50 a day and the minimum cost of a "family food basket" was \$4.47 in 1986 (10). In 1980, 57% of the people lived in extreme poverty, while the basic needs of 89% were not satisfied. Some 77% of the rural residents and 34% of the urban population has per-capita earnings below the poverty level (21).

2. Decreasing agricultural production.

Food production has been irregular with increases at best barely compensating for population growth. Thus a significant deficit in food availability has persisted, often covered by food imports and donations. The country has progressively become more dependent on food imports (20). Food production usually declines in the rainy season from April to August. The average annual index of food production per capita has shown a downward tendency, and the average calorie availability and intake by the population are inadequate for the estimated biological needs (17). This is aggravated by unequal food distribution and availability at the family and individual levels.

3. Rapid population growth.

The Honduras population growth rate is one of the highest in Latin America, and has not changed significantly over the past decades (7). As recently as 1980/82, the crude birth rate stood at 47/1000 and the crude population growth rate reached 3.5%. Current estimates indicate a yearly population growth of 3.4% and a crude birth rate of 42/1000. High

fertility, combined with declining mortality, have produced a high population growth rate. Between 1960 and 1985, the crude birth rate fell by 17%, from 51 to 42 per 1000, while crude death rates during the same period dropped by 55%, from 20 to 9 per 1000. The total fertility rate per woman declined only from 6.5 live births in the 1970s to about 5.5 in the 1980s. Current contraceptive use has been estimated at 35% (9).

4. Low educational level of the population.

There is an extremely high illiteracy rate, estimated at about 40% in 1985 (7). Illiteracy is more frequent among women. This has serious implications for child morbidity, including malnutrition, and mortality. In Honduras, the child of a woman with no education is three times as likely to die as the child of a woman with at least seven years of education (9). Illiteracy represents an important constraint for educational programs in health and nutrition.

5. Low coverage of health care, and water and sanitation services.

Strengthening the health sector has been and continues to be of high priority for the Government of Honduras and for USAID. Significant progress has been made in this regard over the current decade, especially in human resource development, health financing, logistics administration, management and health information systems, supplies (e.g., there is now a nation-wide cold chain system in operation), basic health infrastructure, and water and sanitation installations (9).

However, there is still poor coordination within the MOH, and those important improvements have not resulted yet in significant coverage of health services to the population as a whole. Population with access to health services has been estimated at 60% country-wide, 85% of the urban population and 65% of the rural (7). The 1986 NNS (3) found that about 44% of the women had prenatal care in their last pregnancy and only 25% delivered at health institutions; for about one-third of the families, the nearest health service was more than one hour away by public transportation.

Child growth monitoring remains sporadic and probably ineffective and, although a health communications methodology has been institutionalized in the MOH's Health Education Division, nutrition education has been largely neglected. According to the 1986 NNS, only about 13% of the mothers had brought their children to a health service for growth assessment at least once in the previous year.

A large number of community health volunteers have been trained in different primary health care activities over the last decade: 11,000 traditional birth attendants, 2,500 health watchers, 1,500 community health representatives, 5,600 malaria

volunteers, and 150 health, legal promotion and education facilitators. Of these, 4,500 traditional birth attendants, 1,500 health watchers and most of the malaria volunteers are apparently actively participating in health activities. However, there are no formal community outreach mechanisms established to increase overall coverage and improve targetting of primary health care that could be readily used for delivery of nutrition services to the population at highest risk.

B. Goals and objectives

The ultimate goal of the nutrition action plan will be to contribute to reduce mortality and morbidity in infants and children through prevention of nutritional deficiencies and improvement in overall nutritional status of mothers and children.

The objectives of the action plan will be:

1. To improve the nutritional status of women during pregnancy and lactation through nutrition monitoring and education, supplementary feeding and iron supplementation during pregnancy.

2. To improve the nutritional status of infants and children through growth monitoring and promotion (GM/P), nutrition education to support breast-feeding and improved infant feeding practices, particularly throughout the weaning period and during/after diarrhea, and better targetting and effectiveness of supplementary feeding.

3. To increase the availability of basic foods and resources for infant feeding in poor rural families by promoting and supporting community productive activities such as family gardens and animal husbandry projects.

4. To enhance the nutritional impact of agriculture, rural development and income-generating programs by incorporating specific nutritional goals and elements.

C. Major strategies

The USAID nutrition action plan will be mostly implemented within Health Sector II, in close coordination with agriculture and other development projects. The major strategies will be:

1. Advocacy and policy dialogue.

The aim would not be so much to increase awareness on the need to address the nutrition problems, but to encourage and assist the MOH in planning and implementing coordinated actions in nutrition. A coherent nutrition program should be formulated by the MOH and appropriate resources for implementation should be allocated. A key issue for advocacy is the need to integrate

nutrition activities within MCH/child survival interventions, such as control of diarrheal diseases, immunizations, and birth spacing. A concrete example is the integration of child survival actions around growth monitoring/promotion, which will act as the central vehicle for their implementation. Close coordination should be established internally within the MOH, e.g., between the new Directorate for Food and Nutrition and the MCH Division. Coordination between the health sector and the agriculture sector in regard to nutrition improvement actions is crucial, too. Advocacy and dialogue is also needed to ensure Vitamin A and Iodine law enforcement, and increase the understanding of the impact of birth spacing on the health of the mother and child, and to promote good coordination between child spacing and nutrition activities such as breastfeeding support, nutrition in pregnancy and lactation, and GM/P.

2. Strengthening the health sector operation capabilities

Health Sector I made significant progress in improving the most pressing systems problems in health delivery. Health Sector II will focus on sustainable implementation of systems improvements at the regional and sub-regional level. Improvements in service delivery and support systems are crucial for the effective implementation of nutrition actions in health; most nutrition interventions are delivered through the local health services, thus an effective primary health care delivery system is a must.

Support systems especially critical for the delivery of nutrition services, e.g. growth monitoring and promotion (GM/P) activities, include: local programming (decentralized decision-making and management), logistics, information systems, training and education/communication. A great deal of technical assistance in this regard will have to be provided within Health Sector II. The GM/P component will also need much support for operations research, training and supplies (small anthropometric equipment, growth charts, etc.), which is only partially provided by UNICEF. Other donors are also interested in supporting improvements in health care delivery systems; PAHO/WHO is giving emphasis to promoting and assisting the strengthening of local programming capabilities within the MOH.

3. Targetting of nutritional interventions.

Although nutritional problems appear to be widespread in Honduras, some regions are clearly at highest risk, notably health region 5. A high risk area where nutritional interventions should be concentrated has been identified. More precise geographic targetting could be considered at the department, area or local level, by making use of periodic height assessments in primary school children; these assessments will allow the identification of specific high risk areas or localities, even within apparently lower risk regions.

Targetting by age groups should also be considered; pregnant and lactating women, and children under 2-3 years of age would have the highest priority. Breast feeding promotion and support is more efficient when focused on mothers to be, and improvements in prenatal health care and nutrition are likely to have long-lasting impact on child's health and survival. Children under 2-3 years are at the highest mortality and morbidity risk (diarrheal diseases peak at about one year of age), particularly throughout the weaning period when exposure to infection and deficient diets are most frequent, and they are also more likely to respond to both preventive and recuperative nutrition interventions. Children older than three years are at much lower nutritional risk and tend to be less responsive to nutritional actions.

4. Increased PVO participation in nutrition and health.

In spite of the important improvements in public sector health services delivery, significant coverage of the total population and, in particular, of the high risk rural population groups not easily accesible, will not be achieved in the short term by the MOH. PVOs have so far played an important role complementing the MOH in health and nutrition service delivery, and their experience and input should be more extensively utilized.

Increased coordinated participation of PVOs in nutrition activities is not only desirable but necessary for expanding coverage in remote rural areas traditionally underserved by the MOH, and for providing efficient mechanisms for outreach and community participation. Some PVOs have developed effective operational methodologies for community based nutrition and primary health care activities; their experience should also be replicated and better used in planning and implementation of public sector nutrition actions. Child survival grants will be a suitable mechanism for more active involvement of PVOs in nutrition and health care delivery, in coordination with the MOH.

5. Donor coordination.

A number of donors are supporting or willing to support nutrition and related activities in Honduras. This requires maintaining and increasing coordination among donors to promote complementarity and avoid duplication. Such coordination should also be effective within each donor itself, e.g. between the health/nutrition sector and the agriculture development sector of

the same donor institution.

D. Basic elements of the nutrition action plan.

The major elements of the nutrition action plan are listed in the Health Sector II project document (9). Given the multi-sectoral nature of nutritional problems, some additional elements are recommended that will make the plan more comprehensive and integrated by establishing linkages with and enhancing the nutritional impact of agriculture and rural development programs. These elements are particularly important in Honduras because low food production and availability at the family level, especially in poor rural communities, is a significant problem.

While the long term goal should be the design and implementation of an integrated multisectoral food and nutrition plan, as envisaged by SECPLAN (15), there is an urgent need for immediate coordinated sectoral action in nutrition, by means of well designed specific interventions to be implemented by both the public and the private sector. In the mean time, the conditions should be created for the formulation of sound national food and nutrition policies, as a basis for the development of such multisectoral plan.

The basic elements of the Health Sector II nutrition action plan will be:

1. Growth monitoring and promotion (GM/P).

Although not an intervention in itself, GM/P is one of the basic components of MCH, primary health care and nutrition. GM/P is a service delivery mechanism that cut across all interventions aimed at improving health, nutrition and survival of children, and facilitates the sustained delivery of child health care and nutrition services to the community. In planning and implementing GM/P activities, a preventive educationally-oriented approach is recommended, as opposed to the traditional curative approach. The preventive approach emphasizes a promotional attitude aimed at maintaining infant's healthy growth since very early in life, rather than a screening only attitude looking for malnourished children for rehabilitation purposes. The emphasis is on promoting adequate incremental growth as opposed to identifying children who could be labeled as malnourished.

The preventive/promotional approach uses growth monitoring as a motivational and educational tool, not as an intervention or merely as a screening tool. Therefore, GM/P activities can not be conceived in isolation, with purposes of information collection only (e.g. to feed a nutrition surveillance system) and without concomitant actions such as treatment of diseases, referral for especial attention

(nutritional or otherwise) and, equally important, nutrition and health education. Growth monitoring with no action, promotional and curative, is useless. The educational/promotional approach is key for GM/P to become an efficient vehicle for the delivery of sustainable MCH/child survival interventions and an entry point for PHC.

This promotional attitude has been crucial for effective GM/P activities elsewhere. It is obviously difficult to make it understood by medically (curative) oriented health institutions. Rather than using the traditional clinical approach to nutrition and health, GM/P implies a community-based strategy promoting awareness and self-reliance in primary health care, and providing immediate feed-back and interactive counseling to help mothers make informed and conscious decisions about child care and feeding. Therefore, nutrition and health education (counseling), with emphasis on the continued promotion of improved infant feeding practices, is the key intervention attached to GM/P.

The measurement and interpretation components of GM/P motivate the mother to be receptive to face-to-face counseling and educational messages delivered by primary health care workers and/or mass media. A variety of messages can then be directed to the right target at the right time about breast-feeding, infant feeding, weaning practices, dietary management of diarrhea, prevention and home management of diarrhea, oral rehydration therapy, immunizations, child spacing, maternal nutrition, prevention and control of acute respiratory infections, etc.

The MCH Division of the MOH is well motivated and interested in planning and implementing sound GM/P activities country-wide. However, there are a number of unresolved issues that should be sorted out in the current planning phase before any field activities can be properly implemented. They were described in our previous trip report (21). In summary, the following issues should be addressed as soon as possible:

- Clearly establish the general and specific objectives of GM/P for the MOH.

- Make decisions about the contexts and approaches in which GM/P is to operate, as well as about efficient outreach mechanisms to enhance coverage of high risk populations (e.g. PVOs participation, and involvement of volunteer community health workers).

- Develop a comprehensive operational plan.

- Design and implement a communications strategy for GM/P (see section D.4.).

- Develop effective educational methodologies linked to GM/P (see section D.4.).

- Make appropriate provisions for responding to the health and nutrition problems identified through the GM/P activities.

GM/P activities are currently sporadic and poorly planned, and the MOH has very limited experience in GM/P; therefore, suitable operational methodologies for implementation and, particularly, efficient outreach mechanisms, should be developed through a series of short-term, small, operational research activities. Draft guidelines for decision-making and counseling to improve the effectiveness of GM/P have been prepared by the AED Nutrition Communications Project (NCP), and are ready for field testing; also, alternative outreach mechanisms to increase coverage of families at the highest risk should be explored.

It would be advisable to begin implementing GM/P activities in a limited geographical area, e.g. a health region or area, with the purpose of designing, testing out and finally developing effective operational methodologies that could then be replicated and expanded to larger areas and, eventually, to the whole country. In so doing, full advantage should be taken of the experience accumulated by PVOs locally and elsewhere. The ultimate purpose is to substantially increase the coverage and effectiveness of GM/P activities.

USAID/Honduras, through Health Sector II, will provide technical assistance, basic supplies (growth charts) and equipment (weighing scales), and support for training in GM/P/. Technical assistance will be needed in the preparatory and early implementation phases of a detailed GM/P operational plan, including operations research activities in a limited demonstration area (probably within health region 5 or 2) for a short period of time, as well as in the integration of GM/P with educational and child survival interventions. Assistance in the development of the GM/P operational plan will be provided by the AED Nutrition Communications Project. Training of key personnel from the MOH Department of Child Health, MCH Division, should also be supported (field visits to successful GM/P projects elsewhere may be contemplated), and better coordination with the Food and Nutrition Directorate should be encouraged by all means.

2. Breast feeding promotion and support.

During the last three years of Health Sector I, progress was made in integrating breast feeding norms and procedures into the MOH national program, with an emphasis on hospitals. The MOH national program will continue to expand and

will move from the past clinically oriented approach to a broader, community-based approach with larger coverage country-wide. An evaluation of PROALMA II is currently going on, and a proposal for a third phase of the breast feeding promotion project is under consideration by USAID.

Breast feeding protection is an important element of the nutrition action plan, insofar as breast feeding practices play a powerful reinforcing role in support of diarrheal disease control, birth spacing, infant feeding and, to some extent, ARI activities. USAID will continue supporting breast feeding promotion and protection through continue assistance to the MOH program, complemented by private sector activities. These are basically the activities proposed for the third phase of PROALMA to be executed under AHLACMA administration.

The current AHLACMA proposal should be carefully examined for feasibility and costs. While some of the proposed actions could be efficiently implemented only in close cooperation with the MOH, some others may be carried out outside the health sector. For the former activities, the approval and commitment of the MOH is critical and should be formalized before making any commitment for support. Other activities (professional formal education and support systems for working women) might be executed without the constraints imposed by the currently poor relationship between AHLACMA project staff and the MOH.

At any rate, Health Sector II contemplates the systematic incorporation of breast feeding promotion activities within nutrition and child survival interventions, especially in GM/P, infant feeding and weaning education, child spacing and diarrheal disease control. Once decisions regarding financial support to specific breast feeding activities are made, an operational plan for breast feeding promotion should be prepared by the MOH and AHLACMA. This plan should be closely coordinated with the GM/P, infant feeding, child spacing and diarrheal disease control plans. Although a final decision on the split of implementation responsibilities between AHLACMA and the MOH has not been reached, it is assumed that AED will provide support to both groups.

3. Promotion of appropriate infant feeding and weaning practices.

This element will be implemented through a variety of activities: field research on the characteristics and determinants (economic and socio-cultural) of current infant feeding practices and on the development of simple appropriate technologies to improve these practices under the local restrictions; and education/communications actions to reinforce

adequate feeding practices and promote behavioral changes in faulty feeding practices. The scope of the activities will include general infant and child feeding practices, with especial emphasis on the weaning period, as well as specific practices related to the dietary management of diarrheal and other infectious diseases. A concrete plan for the improvement of infant feeding practices during healthy periods and during/after disease episodes, to be worked out in detail with the MOH, will include:

- Comprehensive analysis of the data available from recent KAP studies.

- Qualitative, ethnographic research, on current feeding practices and its determinants, with emphasis on the identification of educational needs and modifiable behaviors.

- Development of simple food mixes and feeding schemes for weaning infants (based on locally available foods and culturally acceptable preparations), ensuring adequate nutrient density and acceptability by the healthy child, as well as during/after episodes of disease. This implies a series of low-cost, small, field research trials for recipe development and testing.

- Incorporation of the feeding schemes and recipes so developed in the content of education/communication activities.

4. Implementation of an education/communications strategy in support of nutrition within child survival.

This strategy has already been formulated by the Nutrition Communication Project of the Academy for Educational Development (22-23), as part of the Health Sector II Communications Component in support of child survival. The strategy calls for the systematic application of a public health communications methodology based in thorough investigation of the target groups' attitudes and behaviors, careful selection of messages, pretesting of media products, training of health and community workers, and the use of both mass media and face-to-face contact. The aim is to bring about increased demand for nutritional services and positive changes in key behaviors, with the ultimate purpose of reducing malnutrition.

The nutrition component will be introduced within an integrated child survival communications plan that has been formulated by the MOH with the assistance of AED. It will complement those ongoing elements of child survival already developed with AED assistance through PROCOSI and HEALTHCOM: ORT, EPI, ARI, and child spacing. The nutrition component of the

public health communications program will give priority to promotion of breast feeding and growth monitoring (GM/P) linked to improved infant feeding (and weaning) practices. Additional topics whose inclusion will be considered later on are vitamin A and maternal nutrition during pregnancy and lactation.

Nutrition communication activities, like those related to the other elements of child survival, will be carried out in close coordination with the service delivery component to help increase demand for services and elicit needed changes in nutritional perceptions and practices. Therefore, the success of the communications component is to a great extent contingent upon the efficient delivery of nutritional interventions to the community. Specific objectives have been established for each component of the strategy, in terms of frequency and duration of exclusive and supplemented breast feeding, use of contraceptive methods for lactating women, coverage of GM/P activities by risk groups, and understanding of correct weaning practices by mothers.

A three-year master plan for communications and social marketing, including the nutrition component, will be formulated to support the MOHs child survival program. The GM/P and infant feeding (including breast feeding) elements of the nutrition communication plan will be approached together and in coordination with the GM/P, breast feeding and infant feeding operational plans.

Major activities to be completed in 1989 include: field research on current practices and constraints for infant feeding, weaning, and dietary management of diseases; household trials to develop weaning mixes for each major food area of the country; development of a communications plan for GM/P, breast-feeding and infant feeding; training of growth monitoring personnel about appropriate breast-feeding and weaning practices, and in decision-making and counseling techniques; and development, pretesting and production of media and print materials.

The communications plan will be implemented primarily by the Health Education Division (HED) of the MOH, in collaboration with the Food and Nutrition Education Division of the FND. HED has been the major recipient of USAID technical assistance in communications (through AED's HEALTHCOM), and over the past years has developed capability to design, execute and evaluate communication programs using a well-established and rigorous methodology. HED staff have become a key group for coordinating child survival activities because of its role in producing educational materials for virtually all MOH programs, and has developed a plan to deal with different programs in an integrated fashion (Plan de Comunicacion Integral). This will facilitate linkage and integration of the different elements of

child survival, including nutrition. The AED Nutrition Communications Project will provide continued assistance to the HED, as well as to the MCH Division of the MOH, in the development and implementation of the nutrition communication strategy and action plans.

5. Improved effectiveness of P.L.480 food distribution programs.

Recent evaluations of P.L.480 food distribution programs indicate that they have been generally beneficial to the recipients. The GOH acknowledges the need for continued food assistance, and has requested continuation of the supplemental feeding activities under P.L.480 Title II programs. The GOH is currently developing a food aid policy and strategy consistent with a food-reliance objective that includes commodity imports and wheat pricing issues (20). Food commodities represent a readily available resource that should be efficiently utilized. The objective is to improve the effectiveness and reduce the potentially negative impact of food distribution programs on local food production and community self-reliance.

Three main approaches are proposed to enhance the effectiveness of P.L.480 Title II food distribution programs:

a. Improved targetting.

Although not addressed by the recent evaluation of the P.L.480 Title II Programs (17), lack of geographic targetting is currently an important problem reducing the potential effectiveness of these programs. The 1986 NNS (3) revealed that 15.6% of the families in the national sample reported to be participating in food distribution programs, 59% of them in the school-feeding program and about 21% through health services, mostly MCH. Given the absence of geographic risk criteria, in the low-risk health region 6 about 38% of the respondents participated in these programs, whereas the proportions in the high risk regions 5, 4, 2 and 1 ranged between 16% and 18%; it was only 16% in the highest risk region 5.

The effectiveness of food distribution programs will be substantially improved by adequate geographic targetting by risk. Targetting may be carried out by health regions or, if feasible, by areas or even localities, making use of the height assessments in primary school children. Individual targetting to families with malnourished children has been apparently contemplated in the operational norms; however, compliance with these norms should be carefully checked and ensured through systematic supervision. This will be especially important in programs implemented by the National Social Welfare Agency.

In the face of eventual reduction of food donations, targetting by region and by age-group may be an important criterion. Cut-backs in the school feeding programs should take precedence over reduction in the MCH program. As discussed earlier, pregnant and lactating women, and children under 2-3 years of age, are more likely to be benefited than older children. Furthermore, the significance of the apparent impact of the school-feeding program on children's growth and school performance, as evidenced in the recent evaluation (19), is not at all clear.

b. Strengthened educational components.

Incorporating systematic nutrition education will improve the effectiveness of food distribution programs, particularly if coupled with proper targetting. The Directorate for Food and Nutrition of the MOH is especially interested in improving the effectiveness of P.L.480 Title II programs, and strengthening of their educational components is being contemplated.

The educational content will be basically designed through the above described communications strategy, with the necessary adaptations to the food distribution context. Educational messages focused on specific topics selected on the basis of educational needs assessments are more important than teaching how to use the food supplements, as some programs do.

A specific project to enhance the nutritional effectiveness of P.L.480 Title II MCH programs will provide the Food and Nutrition Directorate an opportunity to design and implement concrete nutritional improvement actions by integrating food distribution and face-to-face education. Technical and financial support for that kind of project could be provided through Health Sector II.

c. Carefull selection of food commodities.

Selecting culturally acceptable food commodities that are more akin with the eating habits of the population, rather than extraneous foods, will increase compliance and avoid misuse of the supplements, thus improving program effectiveness. This should be pursued to the extent possible, depending upon the availability of specific food items.

6. Promotion of income generating community projects.

Properly designed and implemented income generating community projects may have direct and/or indirect nutritional

impact through increased family income and food availability. If adequately targetted and supported by a strong community organization, these projects are effective in fostering solidarity and self-reliance, improving family income and achieving direct nutritional goals in poor rural families. The staff of Directorate for Food and Nutrition envisages promoting and implementing this type of self-reliance productive projects as the core of their community action.

A number of PVOs have relevant experience in this kind of community-based activities in Honduras and elsewhere. This experience should be fully utilized. Replications of these projects to the largest extent possible will be supported to be carried out by either the PVOs, the Food and Nutrition Directorate of the MOH, or both.

Income generating community projects will be targetted to the poorest peasants who do not have ready access to the normal sources of credit. These projects frequently offer the best opportunity for fostering women's participation in community development. They can meet the dual objective of generating additional family and community income, while directly meeting nutritional goals by increasing family food availability and consumption. An interesting experience has been developed by CRS in Ecuador through its Child Survival Applied Nutrition Project. Strong organization, solidarity and self-reliance of poor rural communities have been fostered around income generating projects focused on community seed-beds, family gardens and small animals community and family projects (chickens, guinea-pigs, rabbits, etc.), with outstanding income generating and nutritional results.

At least part of the large cadre of community volunteers trained by the MOH could be transformed in effective community development agents in charge of promoting and assisting income generating, nutritionally-oriented community activities. Mechanisms for coordination between the MOH and the Ministry of Natural Resources will have to be worked out. The possibility of allocating P.L.480 Title I generated resources for this purpose may also be considered.

7. Additional elements.

There are some additional elements that will be given due consideration when preparing the detailed plan of action, or later on when more information is available. These elements include:

a. Actions to improve maternal nutrition during pregnancy and lactation.

Possibilities for increased coverage of prenatal and perinatal health care services will be examined with the MOH, as well as the feasibility of incorporating nutritional interventions such as prenatal nutritional monitoring, iron supplementation, and nutrition education about appropriate feeding practices during pregnancy and lactation. Some pregnant and lactating women are currently included in P.L.480 MCH food distribution programs; improved targetting of MCH supplementary feeding would be facilitated by nutritional monitoring during pregnancy.

b. Actions to prevent iron deficiency anemia in young children.

This topic will certainly be included in the nutrition education activities. However, in view of the high prevalence of anemia in children under two years of age, iron supplementation of young children might be contemplated by the MOH.

c. Vitamin A interventions.

Educational messages aimed at improving consumption of vitamin A rich foods, especially by women in reproductive age and children under five years of age, will be included, as well as promotion of production and family consumption of this type of foods through agriculture and community productive projects. The MOH is actively pushing law enforcement on Vitamin A fortification of sugar; an informal agreement with the sugar industry has already been reached, provided that importation of retynol palmitate is facilitated by the GOH. Other interventions, such as distribution of Vitamin A capsules to children in high-risk areas will be contingent upon the results of the 1986 NNS not yet available.

d. Food and nutrition surveillance systems.

The establishment of a fully operational national and community-based food and nutrition surveillance system is an important element to guide decision-making in food and nutrition by providing continue information about the trend of the nutritional situation and its determinant factors. It is also one of the priorities of the Directorate for Food and Nutrition (DFN). However, such initiative is already going on with enough support from other donors thus it is not seen as a priority area for direct technical or financial assistance through the Health Sector II Project.

e. Salt iodization for the control of endemic goiter.

This will not be a priority area in Health Sector II. Although endemic goiter has not been yet eradicated in Honduras, its prevalence has dropped to relatively low levels, and further reductions will be obtained if law enforcement and control of salt iodization are more systematically implemented, as the DFN plans to do.

8. Enhancing the nutritional impact of agriculture and rural development projects.

Agriculture and rural development projects have a great potential to contribute to nutritional improvement in Honduras due to the large proportion of impoverished rural population. Indeed, these projects are in a position to identify and reach the high risk rural groups, and to benefit them nutritionally. Unfortunately, nutritional considerations are frequently not given enough importance in these projects, which are expected to have short-term economic impact but only long-term social benefits. Nutritional goals and intervention elements can be incorporated in agriculture and rural development projects to increase their short-term nutritional benefits, without jeopardizing their economic goals.

Although agriculture projects are not included explicitly as one of the nutritional interventions in health, they will become an important element in the nutrition action plan that will be implemented in coordination with the agricultural sector. Specific strategies and approaches will be developed to increase the nutritional impact of agriculture and rural development projects..

The Land Utilization and Productivity Enhancement Project, LUPE (24) will provide the best opportunity to demonstrate how nutritional goals can be achieved in the short-term by agriculture and rural development projects, through the incorporation of nutritional considerations since the planning phase and efficient coordination with the health sector in their implementation. Some of the main LUPE objectives are to increase agriculture productivity of hill side farmers (usually the poorest) and to improve the nutritional status of the participants. The project will be carried out by the Ministerio de Recursos Naturales (MRN) and will probably give the highest priority to health region 5.

The agriculture components of the nutrition action plan will be shortly worked out and integrated with the health related components for coordinated implementation. Some of the relevant

issues to be examined in regard to the role of the agricultural sector in nutritional improvements are:

- Assessment of the current and potential nutritional impact of agricultural policies and programs in the country.
- Formulation of effective and/or promising approaches to increase food production and consumption by small farmers in priority regions.
- Identification of opportunities to enhance the nutritional impact of agriculture and rural development projects.
- Assessment of the feasibility and conveniency of incorporating food-for-work schemes in income generating community-based projects in rural areas.
- Analysis of the long-term prospects and plans for phasing-out food aid and reaching the country's self-reliance in food production.

E. Next steps

1. Have an agriculture and rural development/nutrition consultant develop the agriculture component of the nutrition action plan as soon as possible.
2. Plan a follow-up visit of Dr. Jose O. Mora within the next two months, ideally overlapping with the agriculture development expert, with the purpose of preparing an operational plan based on the present outline; set up measurable goals and bench-marks; identify specific projects, activities, inputs, outcomes and resources needed; discuss institutional responsibilities; project technical assistance needs; and estimate time-frames and costs. The current AID/LTS I.Q.C. mechanism could be used for this purpose.
3. Hold meetings with the MOH, the PVOs, the MRN and other institutions involved in the nutrition action plan, with the purpose of discussing it, gathering their comments, suggestions, interest and commitment, and consider alternative mechanisms for support and implementation. A formal day-long workshop may be considered to bring key agencies together in this issue.
4. Prepare a technical assistance plan for the final design and implementation of the specific components of the nutrition action plan, as has already been done with the communications component. Priority should be given to GM/P, which will be closely attached to education/communications. These are MOH priority areas that will require assistance soon.

APPENDIX A

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APPENDIX B

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