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**NUTRITION ASSESSMENT  
FOR  
USAID/BENIN**

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A

## TABLE OF CONTENTS

### ACRONYMS

EXECUTIVE SUMMARY .....	1
I. INTRODUCTION .....	4
A. Scope of Work .....	4
B. Methodology .....	5
II. SITUATION ANALYSIS OF NUTRITION PROBLEMS .....	5
A. Country Context .....	5
B. Overview of Nature and Magnitude of Maternal and Child Malnutrition .....	6
C. Protein-Energy Malnutrition .....	6
D. Iron Deficiency Anemia .....	7
E. Vitamin A Deficiency .....	7
F. Iodine Deficiency Disorders (IDD) .....	7
G. Maternal Nutrition and Low Birth Weight .....	7
H. Feeding Practices .....	8
I. Access to Food .....	8
III. INSTITUTIONAL FRAMEWORK FOR NUTRITION INTERVENTIONS .....	11
A. Overview of the National Food and Nutrition Plan of Action .....	11
B. Coordination Mechanisms .....	12
IV. DONOR ASSISTANCE TO NUTRITION .....	14
V. CURRENT NUTRITION ACTIVITIES .....	18
A. Prevention of Iodine Deficiency Through Fortification, Supplementation, and Promotion of Iodized Salt at the Household Level .....	19
B. Prevention of Vitamin A Deficiency through Supplements and Fortification ...	19
C. Prenatal Iron Supplements .....	22
D. Promotion of Exclusive Breastfeeding and LAM .....	24
E. Improving Child Nutrition .....	35
VI. SUMMARY OF FINDINGS, GAPS, AND RECOMMENDATIONS .....	41
A. Context For Investing in Nutrition in Benin .....	41
B. Table 2. Status of Child Nutrition Interventions: Gaps and Recommendations .	43
C. Recommendations .....	47
D. Further Studies and Immediate Needs .....	50

## **APPENDIXES**

Appendix A: Strategic Objectives for the Family Health Project

Appendix B: List of Baby Friendly Hospitals

Appendix C: Map and List of Priority Zones for Nutrition

Appendix D: List of Documents Consulted

Appendix E: List of Persons Contacted

## ACRONYMS

ABPF	Association béninoise pour la promotion de la santé
AC	Agent Communautaire
ARI	Acute Respiratory Infection
ATAPE	School Health Education Project
BASICS	Basic Support for Institutionalizing Child Survival Project
BF	Breastfeeding
BFHI	Baby Friendly Hospital Initiative
BINGOS	Beninese Indigenous Governmental Organization Strengthening Project
BMI	Body Mass Index
CARDER	Centre d'Action Regionale pour Développement Rural
CCS	Communal Health Center
CDD	Control of Diarrheal Diseases
CHD	Departmental Hospital Center
CNAN	National Committee for Food and Nutrition
CNHU	National University Hospital Center
CRESDA	Regional Center for Development and Health
CRS	Catholic Relief Services
CS	Child Survival
CSMI	Maternal and Child Health Clinic
CSSP	Sub-prefector or District-level Health Center
DANA	Direction de l'Alimentation et de la Nutrition
DHS	Demographic and Health Survey
DHSB-1	Demographic and Health Survey Baseline-1
DSF	Direction de la Santé Familiale
EBF	Exclusive Breastfeeding
EPI	Expanded Programme on Immunization
FAO	Food and Agricultural Organization
FP	Family Planning
GMP	Good Management Practices
GTZ	Gesellschaft fur Technische Zusammenarbeit
HEPS	Health Education Project
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IBFAN	International Baby Food Action Network
IDD	Iodine Deficiency Disorders
IEC	Information, Education, and Communication
IMCI	Integrated Management of Childhood Illness
INTRAH	International Training in Health (USAID project)
IPPF	International Planned Parenthood Federation
IRSP	Institute Régional de Santé Publique
KPC	Knowledge, Practices, Coverage (study)
LAM	Lactation Amenorrhea Method
LME	Lactation Management Education
MCH	Maternal and Child Health

MEPS	Matériel Educatif pour la Santé
MOH	Ministry of Health
MSPCF	Ministry of Health, Social Protection, and Feminine Condition
NGO	Nongovernmental Organization
PAN	Programme Alimentation et Nutrition
PANAN	Plan of Action for Nutrition
PEM	Protein-energy Malnutrition
PILSA	Projet d'Intervention Locale de Sécurité Alimentaire
PVO	Private Voluntary Organization
PSI	Population Services International
PSP	Projet de Santé et Population
RAINSA	Nutrition Specialists Network in Benin
RH	Reproductive Health
SIBC	Système d'Information à Base Communautaire
SNIGS	Service National d'Information pour la Gestion de la Santé
STD	Sexually Transmitted Disease
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

E

## EXECUTIVE SUMMARY

There is presently a favorable context in Benin for USAID investment in the nutrition sector:

**High awareness and consensus about what to do.** A new nutrition model is emerging for Benin based on pilot programs. There is widespread consensus about the failure of past nutrition efforts. Leading nutrition program implementation agencies have started to put in place new approaches which bring services directly to the community; include income generation activities, growth monitoring and counseling; and give community groups an active voice and role. Targeted food supplements are found in the large World Bank and Catholic Relief Services (CRS) programs.

**Opportunity to leverage USAID investments.** A number of donor agencies (World Bank, UNICEF, and CRS) have recently initiated major new nutrition programs, offering USAID important opportunities for collaboration and leveraging of USAID resources.

**Nutrition expertise.** There is a critical mass of nutrition expertise in the country, as well as institutions engaged in program research and evaluation for nutrition. More than 100 technical specialists have emerged from the university since it began offering a nutrition program in 1980. These professionals can be found in public and private institutions throughout the country.

**Completion of the demographic and health survey (DHS) provides a strong base of understanding about the nutrition situation in the country and an opportunity for initiating dialogue about nutrition.** In particular, findings showing that poor birth-spacing is directly linked to 40 percent of child malnutrition in the country can provide a new platform for policy dialogue about nutrition and population, with the goal of strengthening family planning IEC in nutrition programs and breastfeeding in family planning.

### Summary of Five Major Recommendations

1. **Support the national goal of promoting exclusive breastfeeding through 4 months and introduce the lactation amenorrhea method (LAM) as a postpartum option.**
  - Support a national IEC effort.
  - Develop interpersonal counseling modules.
  - Incorporate LAM guidelines into IEC materials.
  - Establish norms and technical guidelines for all levels of health workers.
  - Enhance and formalize training curriculum and execution of training in both child survival (CS) and family planning (FP).

- Strengthen supervisory and monitoring systems.
  - Integrate breastfeeding/LAM into medical and nursing school curricula.
2. **Launch a social marketing program for prenatal iron/folate tablets**
- To be based on findings from a market study, which ideally would be conducted in the pre-project planning period.
3. **Fund development of a behavior change approach to improving infant feeding practices, with elements that can be readily incorporated by the World Bank PILSA, CRS, UNICEF, and other ongoing nutrition programs.**
- Fund the basic qualitative research needed to develop concrete, affordable and consumer-oriented target behaviors. These can then be used as elements for IEC materials, mass media programs and for training content, as well as for adaptation of the IMCI food box.
  - Develop a basic set of IEC materials and elements for interpersonal training, radio, and other dissemination channels.
  - Develop a nutrition curriculum for elementary schools, based on the behavioral targets developed through the qualitative research. This would be done in conjunction with the USAID-funded School Health Education Project (ATAPE) and other USAID investments in the education sector.
  - Use the NGO health network and BINGOS PVO consortium to disseminate products.
  - Support electronic and other dissemination via the RAINSA network of nutrition practitioners working in programs around the country.
4. **Implement MINPAK—a basic package of key nutrition interventions—in the zone chosen for implementation of the Family Health Project.** This will provide the country a model for strengthening the nutrition component of child survival activities at the facility level, as well as systems for linking the facility to the community level. No such models presently exist, and with the new nutrition mandate for the MOH, this could have large potential payoff.

5. **Develop a model for “franchising” local entrepreneurs and food vendors to sell an improved “weaning” food to low-income families in urbanizing areas of the Family Health Project intervention area.**
- Several pilot-tested candidate products already exist that offer the promise of saving women time, a factor believed to be a major constraint to improving feeding practices in Benin.

## **I. INTRODUCTION**

A team comprised of Margaret Parlato, behavior change director for LINKAGES (team leader); Serigne Diène, BASICS regional nutrition advisor for West Africa; and Edwin Kimbo, Wellstart lactation management consultant (BASICS) conducted an assessment in Benin during the period March 3-14, 1996. (Parlato from March 4-14). Professor Léopold Fakambi, a leading national nutrition expert, worked closely with the team.

The BASICS/LINKAGES nutrition assessment is one of several planned or already conducted to assist USAID develop a new family health project, integrating family planning, child survival, and HIV/AIDS. Other assessments are 1) private sector (INTRAH); 2) inventory of donor initiatives (BASICS); 3) study of safe motherhood interventions (Mothercare); 4) malaria initiative (USAID/Washington); and 5) IMCI (BASICS). Summaries of findings from the first three studies were available for review.

The draft *Results Framework* for the Family Health Project shared with the team (Appendix A) identifies the Mission's goal as increasing participation in Benin's economic development. The *Strategic Objective* is to increase the use of quality reproductive health (RH) services. Three intermediate results have been tentatively identified: increase availability of quality reproductive health services and products, increase demand for quality services and products, and sustainability.

### **A. Scope of Work**

The objective of the consultancy was to assess the current status of programming possibilities for strengthening nutrition activities within the context of an integrated health program. Specifically, the team was asked to—

1. Assess the epidemiological, programmatic, and policy context for strengthening breastfeeding and infant nutrition interventions (including micronutrients) in Benin.
2. Identify interventions and actions that USAID may want to consider for future support, given the opportunities, constraints, and other donor activities in the country.
3. Identify any further assessments, studies, or analysis necessary for determining priorities for action.

Based on discussions with USAID Health Officer Susan Woolf during the initial briefing on March 5, the scope of work was further clarified to reflect the findings and recommendations of the other assessment teams. Of note is the decision to look closely at opportunities for integrating the lactation amenorrhea method (LAM), for increasing the availability of reproductive health (RH) products, and for other ways to involve the private sector.

## **B. Methodology**

The assessment visit included interviews with key donors, implementing agencies, and research institutions; field trips to Zou (Abomey, Togo, and Daho), Ouémé (Ouando and Porto Novo), and Atlantique (Ouidah); a series of interviews with mothers in maternities and health facilities in both the public and private sectors; and the review of a sizeable number of existing nutritional studies, sector reviews and previous assessments. (See Appendix D: List of Documents Consulted.)

## **II. SITUATION ANALYSIS OF NUTRITION PROBLEMS**

### **A. Country Context**

Benin is a coastal West African country of approximately 5.6 million inhabitants, 60 percent of whom live in rural areas. Benin's population is growing at a rapid annual rate of 2.9-3.2 percent. This growth is propelled by a persistently high fertility (total fertility rate of 7.1). Women make up about 35 percent of the labor force, spending long hours in domestic work, agricultural production, small trading, and street sales. Women of child bearing age constitute 25 percent of the total population. Three-quarters of women of child-bearing age (15-49) are illiterate. This situation is compounded by the low proportion of girls (33.9%) compared to boys (66.1%) attending primary school. Seventy-seven percent of women of child bearing age are married.

The country is divided into 6 departments, with over 50 different ethnic groups. Beninese economy is dependent on agriculture, livestock, and fishing. Half of the households have access to potable water (1988-1990), 66 percent in urban and 46 percent in rural areas.

According to the 1996 Demographic and Health Survey Baseline (DHSB-1), Benin has an infant mortality of 94 per 1,000 live births: 38 per 1,000 are 0-1 month old, and 56 per 1,000 are 1-12 months. The major causes of child mortality include diarrhoea, acute respiratory infections, malaria, malnutrition, measles, and low birth weight.

Benin's fertility rate is high. The "knowledge" rate for modern contraceptive methods is about 50 percent. Contraceptive prevalence rate for modern methods is 2.5 percent, underscoring the importance of breastfeeding (LAM) as a contraceptive method and the need for the promotion of exclusive breastfeeding in order to maximize its child spacing effect. There is also no data available on the average length of postpartum amenorrhoea or the socio-cultural factors that surround sexual activity in the postpartum period. According to the 1996 DHS, 37 percent of married women and 40 percent of married men express the wish to wait at least two years before having another child (women less than 35 years). Twenty-three percent of women and 19 percent of men don't want any more children (women more than 35 years). The high level of maternal morbidity (168 per 100,000) and deaths from abortions and their complications (23 percent of

women admitted to the University Clinic of Gynecology and Obstetrics in Cotonou), all suggest that greater attention should be paid to family planning.

## **B. Overview of Nature and Magnitude of Maternal and Child Malnutrition**

The 1996 Demographic Health Survey Baseline-1 (DHSB-1), the results of which will be published soon, is the first national nutrition survey on a representative sample. No previous representative studies are available that can be used for comparison. The one conducted by the Ministry of Health in February 1996 ran into difficulties that will delay its analysis and publication. This means that the MOH may wish to consider using the DHSB-1 as a baseline for various planned nutrition interventions. Data related to vitamin A distribution and use were not included in the DHS preliminary results as was done for other countries, such as Mali. Other studies reviewed for this assessment are regional or local studies. To identify areas at food security risk, the government has constituted a data bank. Data on 14 parameters related to food insecurity causes and effects were gathered extending over a period of 10 years. The analysis of this information, showed the presence of 11 first priority "at risk" areas and 9 second priority areas of risk. These areas are characterized by—

- low incomes and predominance of agricultural activities
- \* marginal production with natural resources or infrastructure constraints
- instability of supply magnified by low revenues and high food prices
- \* isolation due to impassible roads during rainy season
- little market integration and poor marketing

## **C. Protein-Energy Malnutrition**

Previous studies of protein-energy malnutrition (PEM) among children under-5-years of age, on which official figures are based, have estimated PEM to range between 20 and 40 percent. Preliminary results from the DHSB-1 show no improvement in the nutrition situation: **29 percent of children < 36 months** of age are moderately or severely **underweight** (low weight-for-age). **One-fourth are stunted** (low height-for-age). Borgou (34.9%) and Atacora (32.3%) are the two departments most affected. Both underweight and stunting are most common in children aged 12 to 35 months. The **14.3 percent prevalence of wasting** (low weight-for-height), is highest among children aged 6 to 12 months (19.5%). This may be related to poor weaning practices. There is a **30 to 40 percent increase** in the proportion of malnourished children **when birth spacing is less than 24 months**, as compared to a birth interval more than 24 months. This finding suggests the great potential benefit of an effective family planning (i.e., birth spacing) policy on the reduction of malnutrition. Release of the DHSB-1 study offers a good opportunity to open dialogue on this issue.

#### **D. Iron Deficiency Anemia**

Anemia is considered a significant public health problem for women and children. Nationally, **an estimated 52 percent of children aged 6 to 24 months** are anemic. **One out of five women of childbearing age** suffers from anemia (PANAN, 1995). Higher prevalences of iron deficiency anemia are reported for the sous-prefecture of Ouidah: pregnant women, 72.3 percent; lactating women, 87.8 percent; children aged 6 months to 6 years, 37.9 percent (Alihonou et al, 1995). The preliminary report of the Pilot Food and Nutrition Study, conducted by DANA in 1996 in 12 World Bank-funded PILSA villages, shows prevalences of anemia ranging from 35 to 60 percent, to 90 percent in some villages. High consumption of tubers and cereals are cited as common risk factors for anemia, in addition to malaria and intestinal parasites. The DHSB-1 reports that nearly 80 percent of pregnant women consulted modern health professionals (physicians, midwives, or nurses) for prenatal care. About 67 percent had four or more prenatal visits and presumably received iron/folate supplements. One of the factors at issue in the continued high prevalence of anemia noted by the assessment team is the fact that, nationally, 44 percent of women are either not covered or are not reached until their last trimester, making it unlikely that iron stores can be built up.

#### **E. Vitamin A Deficiency**

Vitamin A deficiency is endemic in some areas of Borgou and Atacora in the northern part of the country where the prevalence among children was estimated at 8 percent in a 1989 study (PANAN, 1995). The Pilot Food and Nutrition Study in 12 PILSA villages mentioned above indicates the prevalence of Bitot spots among children aged 3 to 5 years to range between 3 and 9 percent in villages located in high risk areas.

#### **F. Iodine Deficiency Disorders (IDD)**

Iodine deficiency is believed to be highly prevalent in many areas of the country, but mostly concentrated in the northern part, with Zou and Atacora most severely affected. Prevalence of goiter among children aged 6 to 18 months in five sous-prefectures of Atacora was estimated at 30 percent in 1983 (Seuno, 1994). According to the PILSA 12 village study, IDD is still prevalent, despite the accomplishments of the Benin government and UNICEF in iodizing salt. The DHSB-1 reports over 90 percent coverage of iodized salt and a household consumption level for iodized salt of nearly 79 percent nationwide. Atacora, where the prevalence of IDD is highest, has the lowest percentage of iodized salt consumption (48.3%).

#### **G. Maternal Nutrition and Low Birth Weight**

Using the Body Mass Index (BMI) to characterize maternal malnutrition, the DHSB-1 found that 15 percent of women have a low BMI (<18.5). The proportion of malnourished women is highest among women aged 15 to 19 years, (16.8%); in rural area; and in Atacora Department.

Low birth weight was estimated at 10 percent in the nutrition action plan document. Using the health record kept by mothers, the DHSB-1's estimation was 7 percent. One of the objectives of the National Nutrition Action is to reduce low birth weight incidence/prevalence to less than 8 percent. More accurate data is needed to have a better idea of the prevalence of low birth weight in the country.

## **H. Feeding Practices**

According to the DHSB-1, exclusive breastfeeding is still very low, at 14 percent. It is suggested, however, that this proportion represents progress compared to baseline data collected by UNICEF two years ago when less than 1 percent of infants were exclusively breastfed. Only 23 percent of infants are put to the breast within the first hour after birth.

Early introduction of complementary foods is widespread. The DHSB-1 indicate that at one month old, 16 percent of children are already receiving some type of solid food, and by 3 months, the proportion is more than doubled. The recent knowledge, practices, and coverage (KPC) study conducted by CRS shows that few mothers give an appropriate diet to their young child or follow optimal patterns regarding the timing of introducing complementary foods. As an example, only 28 percent knew that the child should be given leafy vegetables. Given the high prevalence of wasting among children aged 6 to 11 months, one could conclude a potential relationship between this variable and poor feeding practices. In a study conducted in the sous-prefectures of Savalou and Dassa-Zoumé (Lionnella Fieschi, 1995), it is reported that many women declared knowing the food practices taught to them, but were not using them with their children. Again, the appropriateness of the educational messages is questioned.

Force feeding of infants (“gavage”) was mentioned by a number of health professionals as a common practice, however, no studies were identified to assess the extent of this practice. Poor feeding practices are also problematic during illness. DHSB-1 findings regarding feeding during diarrhea indicate that 30 percent of mothers decreased breastfeeding, and about 60 percent decreased the amount of liquids given to the child. This is a net decline in positive practices from that reported in the WHO/UNICEF/MOH National Survey on Diarrheal Diseases conducted in 1992 which stated less than 8 percent and 12 percent, respectively, of mothers decreased breastmilk or other fluids. The national CDD program should be made aware of this negative change and take the necessary corrective action(s).

## **I. Access to Food**

The following paragraph is quoted from the World Bank Staff Appraisal Report for the Community-Based Food Security Project (PILSA).<sup>1</sup>

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<sup>1</sup>World Bank, March 9, 1994: Staff Appraisal Report, Republic of Benin, Community-Based Food Security project, Report No. 12253.

“The few studies available on consumption patterns confirm the presence of four main models: a) in the north, sorghum and yams predominate, with a consumption of about 93 and 225 kg/person/year respectively; b) in the south, maize is the main staple food, with about 110 kg/person/year, and cassava complements the food intake, with 113 kg/person/year; c) an intermediate model covers the center of the country, with sorghum being progressively replaced by maize, and yam by cassava; and d) a fourth model, increasingly spreading in southern urban areas, is dominated by rice and bread. Bean consumption is constant throughout these models, with about 5 kg/person/year. On average, the daily intake appears adequate and provides at least 90 to 95 percent of the minimum theoretical daily requirements (daily per capita caloric supply was of 2,305 in 1989). However, seasonal food shortages occur together with severe unbalances from one area to the other which reduce substantially the caloric intake of some population groups. This pattern leaves pockets of deficiencies in calorie and protein intake, particularly critical to pregnant women and young children. As a result, possibly 18 percent of Benin’s population are thought to suffer from one form or another of food insecurity.”

**Table 1 SUMMARY OF NUTRITIONAL STATUS INDICATORS**

Nutrition Problem	% preval.	Source	Date	Observation
<b>Stunting (H/A)</b> Severe (- 3SD) Moderate (- 2 SD) <b>Total</b>	 7.8  17.2 <b>25</b>	 DHSB-1   	 1996   	 Nationally representative-preliminary results   
<b>Wasting (W/H)</b> Severe (- 3SD) Moderate (- 2 SD) <b>Total</b>	 2.7  11.6 <b>14.3</b>	 "  "	 "  "	 "  "
<b>Underweight (W/A)</b> Severe (- 3SD) Moderate (- 2 SD) <b>Total</b>	 7.4  21.8 <b>29.2</b>	 "  "	 "  "	 "  "
Low Birth Weight	7 10	DHSB-1 CNAN	1996 1993	Preliminary results in Seuno (1994)
Iron Deficiency Anemia (6-24 M)	52	CNAN	1993	(Atlantique, Mono, Ouémé) in Seuno (1994)
Vitamin A Deficiency (<5)	8	DANA	1989	Atacora (saison sèche) in Seuno (1994)
Endemic Goiter (<5)	10.13	DoH	1983	Atacora

### **III. INSTITUTIONAL FRAMEWORK FOR NUTRITION INTERVENTIONS**

Benin has a well-developed framework for food and nutrition, with considerable experience in applied research. This has permitted the testing of a variety of approaches and interventions. Benin also benefits from having a cadre of nutrition specialists working at different levels of the government system. Many of these practitioners have organized themselves into a network called RAINSA-Benin to promote the exchange of experiences and inter-disciplinary approaches. This network offers an efficient way of transferring lessons learned and new approaches within the country.

#### **A. Overview of the National Food and Nutrition Plan of Action**

At the policy level, Benin was one of the first African countries to develop and finalize its National Plan of Action for Food and Nutrition (1994-2004) based on the recommendations developed for the International Conference on Nutrition in 1994. Finalization and adoption of the plan was achieved in December 1995. Steps to operationalize this plan have included setting up departmental committees that will be responsible for coordinating its implementation, which has not yet been executed. The national plan requires a budget of \$ 24 million for the 10-year period. Among its specific objectives are the following:

- Reduction of severe protein-energy malnutrition to less than 2 percent in children aged 0 to 10 years of age.
- Reduction of wasting to less than 6 percent and of stunting to less than 12 percent among children under-5-years of age.
- Reduction of iron deficiency anemia to less than 25 percent among children under-2-years, and to less than 10 percent among women of child bearing age.
- Reduction of low birth weight to less than 8 percent.
- Virtual elimination of iodine deficiency disorders and clinical signs of vitamin A deficiency.
- Reach a 50 percent rate of exclusive breastfeeding (EBF) up to 4 months from child's birth, at least 90 percent continued breastfeeding up 12 months, and at least 60 percent after 18 months.
- Ensure growth monitoring of at least 75 percent of children less than 11 months, and 50 percent of children aged 12 to 36 months.

To reach these objectives, the following nine strategies were defined: a) integration of nutrition concerns and objectives in development policies and programs; b) improvement of household

food security; c) evaluation analysis and surveillance of nutrition status; d) improvement of household food security; e) improvement of food quality; f) prevention and treatment of infectious and parasitic diseases; g) promotion of breastfeeding; h) direct support of population groups, which are disadvantaged socio-economically and/or vulnerable to nutritional insecurity; and i) prevention of micronutrient deficiencies; promotion of a nutritious diet and healthy behaviors.

In order to better operationalize the plan, effort should be made to decentralize it. Each department should set up its own intersectorial committee which would initiate the detailed work planning with priorities and a time table for the department. Round tables with donors should have been organized to check for interest and level of commitment in funding part of the planned activities. Since its adoption, there have been few follow-up meetings of the national committee.

In addition to the national nutrition plan, a national position document was prepared for the November 1996 World Summit.

## **B. Coordination Mechanisms**

To oversee the country's nutrition programs an interministerial coordinating body—the National Committee for Food and Nutrition (CNAN)—was created by presidential decree in 1994. This is in addition to two other national committees for food security: one for concertation on food security, and the second one for coordination, monitoring and evaluation of food security. The CNAN has a permanent secretariat assured by the Direction de l'Alimentation et de la Nutrition (DANA) in the Ministry of Rural Development. Its specific mandate is to ensure that the nutritional aspects or quality of the food security is fully taken into consideration. It would be helpful to set up departmental committees as they would be in a better position to coordinate the implementation of planned activities in the plan of action, especially those already funded.

### ***Government Entities***

DANA and the Direction de la Santé Familale (DSF) Nutrition Unit, located within the Ministry of Health, Social Protection, and Feminine Condition (MSPCF), are the two main units responsible for coordinating the implementation of nutrition interventions in the field.

#### ***DANA***

Now in the Ministry of Rural Development after several back and forths to the Ministry of Health, DANA is responsible for the overall coordination and implementation of the country's food and nutrition policy and programs. DANA has a strong technical capacity at the central, departmental, and prefecture levels. DANA's director is a former senior researcher at CREDESA (and participant in an IEC training course sponsored by RENA and the Nutrition Communication Project). At its headquarters in Porto Novo, activities are organized around three technical divisions: a food and nutrition program unit, responsible among others things for surveying,

monitoring, and evaluating the situation in the areas at risk of malnutrition; a unit for training, nutrition education, and documentation which has been involved in nutrition education in elementary schools; and a third unit which deals with food legislation, food quality, and food analysis. This last unit is charged with the oversight of salt iodization in the country. DANA is currently conducting village nutrition monographs for the PILSA project areas.

### *DSF Nutrition Unit*

The latest restructuring of the Ministry of Health has led to the creation of the “Direction de la Santé Familiale” (DSF) within which a Nutrition Unit was set up with only one person. Funding from the World Bank Health and Population Project is intended to strengthen the capacity of the DSF to assume its role in implementing the nutrition plan of action. The need to revise the norms and standards for nutrition activities and the training modules for health workers are major concerns of the DSF. These are perceived as especially important given the NGO the “phenomenon” and need to maintain quality and adherence to a set of basic technical standards. Also a priority is working out a functional interface between the MOH facility and the community GMP/income generation and other nutrition activities. The MOH does not see itself as having the major responsibility for preventive nutrition; this is seen as a community responsibility. How the GMP at community and health facilities levels relate to each other is yet to be worked out. The definition of a *Minimum Package of Activities*, including nutrition to be provided in health centers, is also to be completed.

The following are the elements of the minimum package currently being implemented—

- Prenatal care, including iron and Nivaquine distribution
- Safe delivery
- Post-natal care
- Child and mothers’ immunizations
- Growth monitoring
- Family planning

Like the BASICS Minpak, iron distribution to pregnant and lactating women, presently part of the MOH’s minimum package, is covered. Other components of the BASICS Minpak, including BF promotion and complementary feeding, and vitamin A case management (diarrhea, measles, ARI) are not included and this is an area where policy-dialogue is required.

### **CREDESA**

Created in 1983, the Regional Center for Development and Health (CREDESA) is a focal point for research, training, and implementation of experimental approaches in Benin. As a quasi-independent government institution, CREDESA consults to a variety of international and national organizations, including CRS and UNICEF. The multidisciplinary team of 30 professional staff consists of agronomists, economists, social scientists, nutritionists,

epidemiologists, and public health specialists. Staff are experienced in a variety of qualitative as well as quantitative research methods. In 1991, CREDESA received the "Sassakawa 1991 Health Prize" at the 44th World Health Assembly for its innovative work in launching the Bamako Initiative.

CREDESA has a nutrition division which develops, tests, and carries out nutrition interventions. At present they are testing a community approach to improving nutrition in sentinel communities in the sous-prefecture of Ouidah (Atlantique). Recent research includes studies on iron and on low-birth weight.

### *MEPS*

On the IEC front, Matériel Educatif Pour la Santé (MEPS) is a well equipped and staffed center, with capacities in print, electronic, video, and training. MEPS is sought out for production work by UNICEF, PSI, and others looking for professional work. MEPS has been involved in most of the major IEC efforts (breastfeeding, ORASEL, family planning, etc.), and their well organized documentation center is a good place to visit to see sample materials from all these programs.

## **IV. DONOR ASSISTANCE TO NUTRITION**

The assessment team estimates that the new targeting measures adopted by CRS and PILSA have the potential to reach up to 50 percent of the most seriously at-risk children under-5-years of age. This assumes that 18 percent of households are food insecure (according to the PILSA assessment); that CRS reaches 50,000 children, PILSA 48,000; and that 20 percent of the population is under the age of 5.

### *USAID*

Food aid assistance is being provided by CRS under the Title II Food Program (\$1.9 million). CRS was given a recent grant to conduct a nutrition KPC study in Ouémé. (See CRS below.)

Under its assistance to the education sector, USAID also funds a school health education project (HEPS) administered by MCDI, which is designed to introduce health education into the school curriculum in grades 1-6. A nutrition module is scheduled for development in 1997, and would, as the technical advisor suggested, benefit from a practical behavior change approach.

### *UNICEF*

UNICEF is the main donor for the nutrition sector. Health/nutrition is one of five country programs in the \$20 million BENIN-UNICEF Plan of Cooperation for 1994-1998. (The others are water, sanitation and guinea worm; education; planning, monitoring, and evaluation; and social mobilization which provides advocacy and promotion support to all the programs.) Health

activities (MCH and health strengthening projects) are described in the Aguillaume/O'Neill report on donor activities recently done for USAID/Benin.

Nutrition activities include the \$2.8 nutrition project which focuses on growth promotion and elimination of micronutrient deficiencies, and the Baby Friendly Hospital Initiative (BFHI), which is administered through a separately funded MCH project. Principal initiatives include:

- Iodine: This has been UNICEF's nutrition emphasis during the past three years and there are impressive results. Eighty percent of salt is now iodized. Prevalence of iodine deficiency disorders have been reduced. Activities are now underway to move to universal salt fortification and stronger monitoring. No areas for USAID-support were identified.
- Breastfeeding: UNICEF's second priority has been the Baby Friendly Hospital Initiative. To date, 23 of the 40 targeted institutions have been certified. There is considerable scope for support from other donors for training, monitoring, and promotion.
- Vitamin A: Support is provided for a supplementation program in the departments of Borgou and Atacora.
- Iron: In an effort to reduce the prevalence of low birth weight babies, UNICEF is supporting distribution of iron folate tablets and malaria prophylaxis to pregnant women. This is being done through prenatal clinics. Maternal nutrition was one of the areas recommended for more attention by the October 1996 Mid-Course Program Evaluation.
- Complementary Feeding: Focus is on developing a community-based approach to growth promotion and nutritional surveillance (Système d'Information à Base Communautaire—SIBC). Activities are targeted to children under-3-years of age in 19 villages in the department of Zou. Five villages per sub-prefecture are participating, representing an estimated 30 percent of health facilities in the zone. The SIBC approach will be extended to other villages in 1997. UNICEF would like to concentrate their nutrition efforts in one sub-prefecture, in order to link education, income generation, and the health/nutrition interventions.

#### *World Bank*

Two current projects have large nutrition components: the Food Security Project (Projet d'Intervention Locale de Sécurité Alimentaire—PILSA) and the Health and Population Project (Projet de Santé et Population—PSP). Also of interest to the nutrition sector are the series of

household budget and consumption surveys conducted by the National Institute for Statistics and the Economy as part of the safety net program accompanying structural adjustment.

### *PILSA*

This \$19 million project, of which \$2.7 is specifically for nutrition, aims to improve food security and nutrition standards for children under-5 and breastfeeding and pregnant women in 20 sub-prefectures. These are located in all six departments and were chosen based on food security and nutrition criteria (see Appendix C map and list of priority zones). To date, about 25 out of an anticipated 50 NGOs have been selected to manage field activities and provide IEC, training, and community mobilization. Each NGO will use its own approaches. Key components of PILSA include 1) income generating activities through small investments in agriculture, fisheries, food processing, small trading, and marketing; 2) small rural works, such as improvement of feeder roads and market infrastructure; 3) nutrition activities to reduce malnutrition of children under-5-years of age and of women: 48,000 children will participate in growth monitoring activities and 20,000 mothers will be followed; 4) strengthening of the capacity of the Ministry of Rural Development in food security planning, monitoring, and evaluation; and 5) updating of the data base on vulnerable populations and information systems.

The pilot phase initiated in 1994 started with 50 villages, with a goal of reaching 200 by 1997. What is new in PILSA II is the nutrition component. Planned activities, which have not yet started field implementation, will use an approach of education, growth monitoring, supplementary feeding, and referral to health rehabilitation centers when required. To catalyze these efforts, community animators will be hired in each village. How to pay them is still being discussed, with discussion about using the sale of drugs and health products as one way to create motivation.

Health and Population Project: This \$33 million project, signed in late 1996, includes several components aimed at strengthening the capacity of the MOH to implement its own responsibilities to improve nutrition, within the National Plan of Action for Food and Nutrition. This includes 1) strengthening the capacity of the recently created Nutrition Service at the central and departmental levels; 2) strengthening the capacity of service providers to play their role(s) in the prevention and treatment of malnutrition and in nutrition education; 3) the development of a sentinel surveillance system to monitor nutrition trends in priority population groups; and 4) promotional activities to encourage behavior change.

Important areas of collaboration between these two projects have been identified by the World Bank, especially related to the sharing of information on nutrition surveillance and the monitoring and evaluation of nutrition activities; and in establishing mechanisms of collaboration between health facility personnel (PSP) and community nutrition workers (PILSA). This last is of special concern to the MOH.

To date, little has taken place in the nutrition area. The study, which was to have helped set the nutrition agenda for this project and serve as a baseline, has run into difficulties. Results from the February 1996 survey in the 20 project zones are not yet available because of difficulties with the analysis. Estimates are that as much as 30 percent of the data will have to be discarded. Some sections may be particularly affected.

### *FAO*

With GTZ funding, FAO provides support to the National Bureau for Support of Food Security to maintain a "Rapid Alert System." Programs to enhance food security are also supported.

### *CRS*

CRS has been working in Benin since 1958, with a focus on community health and nutrition. Title II programs are based on a food-distribution model—rice or wheat (2 kgs), oil (1 kg.), and a wheat-soy blend (2 kgs)—to regroup mothers for child (0-2 years old) weighing and nutrition education. Commodities are also distributed at nutrition recuperation and education centers for children suffering from acute malnutrition and in other child feeding centers, such as primary schools. CRS is gradually shifting from a center-based approach to a community-based one, incorporating community-based information systems and income generation. CRS has received a grant from USAID to conduct a nutrition KPC study in Ouémé Department.

### *Netherlands*

The PHC Support project, operating in areas of Atacora and Borgou, conducts growth monitoring of children 0-36 months in health centers, reaching 72 percent of 0-11 month olds, and 1 percent of those aged 11-35 months. Netherlands development assistance is also provided to IBFAN-West Africa for support to breastfeeding promotion activities in Benin (8,000 Swiss Francs).

### *Italy*

Since 1986, the Italian government has provided support to the Ouando baby food processing plant, primarily in the form of machinery needed to transform the artisanal production put in place by DANA-FAO to a more commercial basis. The soy-corn-sorghum product reaches an urban market. The plant produces 120 tons per year.

### *UNFPA*

UNFPA recently launched a reproductive health program in conjunction with the MOH, with the aim of integrating maternal health care, STD treatment, and family planning. Of interest to potential breastfeeding and maternal nutrition interventions is the planned training program for the "centres de references" scheduled to start in 1997. Twelve (12) centers are targeted. Nutrition will be a component.

## AFRICARE

Working in Benin since 1993, AFRICARE's program has focused on FP/AIDS/STDs and supporting NGOs working in health, family planning, and governance, through the \$4 million BINGOS project. This project reaches 33 local NGOs with financial and project management training. The micro-project component presently includes two nutrition activities (dry-season gardens and nutrition education.)

MAJOR NUTRITION DONORS		
DONOR	INTERVENTION	GEOGRAPHIC ZONE
UNICEF	Baby Friendly Hospitals Vitamin A Supplementation Growth Monitoring/Promotion Salt Iodization	National Atacora and Borgou Zou National
World Bank	Integrated Nutrition/Income  Institutional Strengthening	National 22 high-risk zones  National
CRS	Integrated Nutrition/Income	Ouémé (pilot) National (95 centers)
CREDESA	Integrated Nutrition/Income	Atlantique (Ouidah)
DUTCH	Growth Monitoring/Promotion Vitamin A Supplementation	Atacora and Borgou

NOTE: DHS SHOWS ATACORA and BORGOU to have the highest prevalence of under-5 malnutrition .

## V. CURRENT NUTRITION ACTIVITIES

This section reviews the coverage and quality of a selected group of proven and cost-effective nutrition interventions that BASICS advocates for child survival projects. These are referred to as the MINPAK. The consultant team also looked at the use of breastfeeding as a family planning method (LAM) and at maternal nutrition and micronutrient interventions that would potentially be compatible with the Family Health Project being designed by the USAID Mission.

Gaps in the delivery of these key interventions are identified, as well as recommendations for USAID support.

## **A. Prevention of Iodine Deficiency Through Fortification, Supplementation, and Promotion of Iodized Salt at the Household Level**

Benin has made remarkable progress in eradicating iodine deficiency disorders (IDD) since adopting a national policy in 1995 to iodize all imported salt and ban the commerce of non-iodized salt. With 80 percent of salt coming from Senegal, Nigeria, and Ghana, initial efforts focused on negotiations with salt producers and the establishment of a monitoring system. Given the possibility of controlling most of the salt supply in the country, relatively little focus has been directed to demand creation efforts.

To look at impact to date, a World Bank-funded study was conducted in three departments in February 1996 (Zou, Borgou, and Atacora). This found 80 percent of salt iodized in the two worst areas (Borgou and Atacora). Urinary iodine excretion tests showed an IDD prevalence of 42 percent in Borgou, 13 percent in Atacora, and 4 percent in Zou.

Problems identified at the UNICEF Mid-term Evaluation in 1996 included leakage of non-iodized salt from Togo, and problems in monitoring. This problem is expected to correct itself in the near future as Togo has initiated a salt iodization program of its own. Universal salt iodization is presently under study by the National Assembly. In the meantime, efforts are being focused on starting up two plants for iodization of local salt (Quidah and Comé) and on strict monitoring. Also planned is distribution of oil capsules and other interventions for areas with a high prevalence of IDD. The PILSA project, for one, will have an iodine component.

### ***Summary of Gaps***

1. No major gaps were identified. This is an area where UNICEF leadership has been strong and continued support is expected.
2. If USAID selects one of the northern, most affected provinces as a projects site, incorporation of an iodine supplementation activity may be required. Not enough is known about the supply of iodized salt in the north to comment on the appropriateness of activities to stimulate purchase at household level. The assessment team did not look at iodine programs in any depth, given high-level UNICEF support for this activity. To address the problem in the north, other iodine sources are being put in place, including iodine capsules and the establishment of local iodization. Demand creation efforts have also been organized to increase preference for and purchase of iodized salt.

## **B. Prevention of Vitamin A Deficiency through Supplements and Fortification**

The vitamin A situation in the country is not well understood due to lack of epidemiological information. The MOH/World Bank study conducted in February 1996 was to have provided a situation analysis in areas of high nutrition risk targeted by the PILSA project, but this will not be forthcoming due to implementation problems. Nevertheless, the high levels of malnutrition in all

areas of the country, coupled with frequent and severe episodes of diarrheal and acute respiratory infections, suggest that deficiencies constitute a widespread public health problem.

### ***Policy***

Elimination of micronutrient deficiencies is an objective of the National Food and Nutrition Plan. To date, however, there is not a clearly articulated strategy to address vitamin A deficiency. UNICEF support, which constitutes the main support for vitamin A deficiency, is based on a two-pronged approach: comprehensive supplementation for the short term, while measures to increase production and consumption of vitamin A-rich foods take hold.

Government policy presently calls for—

- ▶ Administration of supplements to children with measles, ARI and chronic diarrhea.
- ▶ One dose of 100,000 IU every four months for children 6-12 months old.
- ▶ One dose of 200,000 IU every four months for children 12-36 months old.
- ▶ One dose of 200,000 IU for women within four weeks after delivery.

To permit universal and routine supplementation of children and new mothers, the government is considering selling vitamin A capsules as part of the treatment cost for diarrhea, ARI, and measles, which means it is more likely stocks would be kept on hand. Thus, the \$0.09 per capsule would be passed on to the consumer. Vitamin A is classified as an essential drug, making this relatively easy to do. UNICEF estimates program costs are about 100 CFA per child per year. (At present, only the 200,000 IU capsule is used. After a trial period, the MOH has decided to stock only the 100,000 IU capsules, so older children will receive two capsules as their dose.)

### ***Interventions***

#### ***1. Supplementation***

Limited supplementation activities are underway. Programs presently operate in a few zones of Atacora and Borgou departments through UNICEF and the Dutch-assisted Primary Health Care Project. It is estimated that not more than 5 of the country's 77 sub-prefectures are covered. Beginning in 1997, PILSA's nutrition component will provide vitamin A supplements in its 221 intervention villages, as they come on board. These are located in the most nutritionally vulnerable zones. Vitamin A will be one of the basic medicines and health products to be sold by the project's community agents.

Rotary International has expressed interest in extending the UNICEF-supported effort.

To date, very poor data are available on how well the UNICEF and Dutch-assisted efforts are working. Information from supervision visits shows that capsules are available in all centers in the target zones, and that an estimated 50 percent of children are being covered. It appears that supplements are distributed four times per year, in conjunction with growth monitoring and EPI activities, and that an evaluation is planned to assess use of the “centres sociaux” (formerly under the Ministry of Rural Development and now under the MOH) as a distribution channel. No data are available on post-partum women (UNICEF Mid-Course Evaluation, September 1996). A line to register vitamin A doses is on the MOH child health card. The Ministry health card for mothers does not, however, have a line for vitamin A. Information is also not available on case management of vitamin A. Limited inquiries made by the assessment team during clinic visits, suggest health workers may not be knowledgeable about policies governing use of supplements.

Monitoring is a problem. UNICEF would like to see the management information system revised to permit better tracking to ensure regularity and avoid multiple-dosing. UNICEF suggested that monitoring is also an issue for PILSA and others, and that joint solutions should be pursued.

## **2. *Supply of Vitamin A-Rich Foods***

Production of vitamin A-rich foods and nutrition education has received less focus. In 1995, 10 women's groups in Atacora and 10 in Borgou received help to start vegetable production through UNICEF. This was implemented by CARDER (Centre d'Action Regionale pour le Développement Rural). Of note for future food-based efforts is that DANA has developed a number of improved varieties of amaranth and other foods of high vitamin A content. These varieties are now fairly widely available.

Several NGOs, including AMADE (Belgium), have small-scale activities to increase access to vitamin A-rich foods, including home gardens.

## **3. *Fortification***

DANA expressed interest in exploring the possibility of fortifying sugar. A high percentage of sugar is imported and comes in cube form.

## ***Summary of Gaps***

Following is a summary of gaps in vitamin A policies, coverage, and quality identified by the assessment:

1. Additional donor initiatives are needed to improve coverage of vitamin A supplementation interventions.
2. There is insufficient epidemiological information to target supplementation programs and track progress.

3. Additional program models are needed for distribution of supplements since only an estimated 57 percent of children nationally use curative services (National Vaccination Coverage Study, 1995).
4. Feasibility studies for a vitamin A fortification program should be conducted. DANA, which is responsible for food fortification, has expressed interest in looking at sugar fortification, based on the high consumption of imported sugar (mostly in cube form) from a limited number of producers.
5. Improving health worker performance calls for development of technical directives governing supplementation, a revised mother's card, and improved skills of health workers at the facility level and for others distributing vitamin A capsules.
6. Given the growing number of programs, revised monitoring and evaluation systems are needed to track supplementation efforts.

### ***Recommendations***

1. Include a vitamin A supplementation program in the Family Health Project intervention area.
2. Conduct a feasibility study for vitamin A fortification.
3. Initiate policy dialogue to review having vitamin A included in the MOH's "Packet Minimum" of essential services offered by health facilities.

### **C. Prenatal Iron Supplements**

In Benin, inadequate iron intake, malaria, and sickle cell disease are common causes of anemia. These deficiencies pose serious problems to both women's health and the physical and mental development of their offspring. Thus, there are solid grounds for USAID to consider supporting interventions to reduce iron deficiency anemia in conjunction with planned efforts to address malaria.

### ***Policy***

There is no specific National Iron Deficiency Control Program. Government norms stipulate that iron/folate tablets be distributed to all pregnant women attending MOH facilities. Iron is classified as an essential drug and is made available by the "Centrale d'Achat."

## *Interventions*

Statistics from SNIGS indicate that iron/folate tablets (and Nivaquine) are being regularly distributed to women attending prenatal clinics. Costs are \$1.00 for 90 tablets. The iron tablets (200 mg formulation with 60 g iron) are part of the prenatal package a woman receives with her fee of 500 CFA. Midwives earn 25 CFA of this as their motivation for bringing in pregnant women—a system that appears to be showing results. Typically, women receive the 90 tablets in 3 installments to help motivate return prenatal visits. Policies in this respect appear, however, not to be uniform. Some establishments visited in Zou, for example, ask women to purchase the iron/folate separately, and the charge is in addition to the prenatal fee.

The system has a potential to reach a sizeable percentage of pregnant women. According to DHS statistics on prenatal visits, 73 percent of rural and 87 percent of urban women receive care from a medical professional at some point during their pregnancy. This varies considerably from one department to another, with 60 percent receiving some care in Borgou and Atacora, and close to 80 percent in the other departments. Women interviewed as part of this assessment all reported having received iron, and having taken the tablets.

At issue is how to reach the women not using health services who are likely to be most at risk, and how to reach women earlier. Nationally, 44 percent of women are either not reached or wait until six months into their pregnancy to make their first visit. To improve impact and enable women to build up iron reserves, supplementation should start earlier—preferably at marriage or in the first trimester. Also at issue is compliance, which has been a problem in virtually every iron supplementation program studied, and may be a problem in Benin. To date, no studies in Benin have been carried out to find out how well the supply system works, what women do with the pills, how regularly they take them, what kind of side effects they experience, and what might be done to encourage more regular taking of the pills, if this does turn out to be a problem.

Experience elsewhere suggests social marketing could address a number of issues:

- increase coverage by making supplies available outside the health system
- reach women earlier
- increase frequency of tablet-taking and hence, raise iron stores

Discussions with Population Services International (PSI) indicate good potential for social marketing of iron based on their experience in marketing ORASEL and Prudence condoms. In 1990, PSI initiated its AIDS prevention condom social marketing project in Benin. In April 1995, PSI expanded activities to child survival products by adding a second product, ORASEL, designed to treat dehydration from diarrhea. Promotion strategies have used radio, television, and billboards, coupled with a very intensive sales promotion and inter-personal IEC effort. PSI has emphasized community-based distribution for both condoms and oral rehydration salts. Village volunteers countrywide are responsible for informing villagers about the benefits of these products. They also sell the products and make a small commission. This system has been

extremely successful and could be the basis for marketing new products. Sales of ORASEL have topped two million units, and right now, demand out paces supply.

Options for adding an iron product discussed with PSI include a double launch with one of the new product lines now being planned. This has been done in several other countries. There might be advantages, since the products target the same audience. For example, iron/folate tablets could be marketed to women along with insecticide treated bed-nets. Launch of malaria nets is now scheduled to take place in 1998, or following the 1997 (late) launch of oral contraceptives (or Depoprovera).

### ***Summary of Gaps***

1. A small study is required to further assess the availability of iron/folate tablets; explore compliance and issues to increase it; and examine iron reserves of women to determine how effective the supplementation program is in practice. Iron/folate tablets represent the second most frequently distributed essential drug, and a considerable cost to consumers. Maximizing its benefit is, therefore, of considerable interest.
2. Explore the feasibility and potential coverage of an iron social marketing program to reach undeserved populations.

### ***Recommendations***

Initiate a social marketing program for iron folate tablets based on findings from the exploratory studies.

## **D. Promotion of Exclusive Breastfeeding and LAM**

### ***Background***

Breastfeeding plays a fundamental role in the health of mothers and infants. The key optimal breastfeeding behavior with the greatest impact on maternal and child health is exclusive breastfeeding for four to six months (WHO, UNICEF). Following the 1990 Innocenti Declaration, the international health community recognized the critical role of breastfeeding in the health of mothers and children and called for support of a global initiative to improve optimal breastfeeding practices. IPPF acknowledged the important role of breastfeeding in birth spacing following the 1988 Bellagio Conference in Italy, where it was unanimously agreed that women who exclusively breastfeed their babies for the first six months have only a 2 percent chance of becoming pregnant (Perez, 1992).

Benin's fertility rate is high. The "knowledge" rate for modern contraceptive methods is about 50 percent. Contraceptive use is very low, ranging from 0.7 to 1.0 percent, underscoring the importance of promoting exclusive breastfeeding and LAM in order to maximize their child

spacing effect. There are no data available on the average length of postpartum amenorrhoea nor on the socio-cultural factors that surround sexual activity in the postpartum period. According to the 1996 DHS, 37 percent of married women and 40 percent of married men wish to wait at least two years before having another child (women less than 35 years). The high level of maternal morbidity (168 per 100.000) and deaths from abortions and their complications (23 percent of women admitted to the University Clinic of Gynecology and Obstetrics in Cotonou), all suggest that greater attention should be paid to reproductive health.

WHO/UNICEF's recommended strategy for improving breastfeeding practices consist of a number of steps: the conducting of country-level assessments to document the breastfeeding situation and serve as the basis for planning; the development of a National Breastfeeding Task Force as a policy arm for the national program; the development of a national breastfeeding and infant feeding policy, strategy, and action plan(s); and the implementation, monitoring, and evaluation of national breastfeeding promotion programs.

### ***Infant Feeding Practices***

Nearly all (97%) Beninese women breastfeed their babies at some time (DHS, 1996). Mothers recognize that breastfeeding promotes good health in children. However, very few women breastfeed their infants optimally. Exclusive breastfeeding is still very low, at 14 percent. The DHS suggests, however, that this proportion represents progress compared to baseline data collected by UNICEF two years ago when less than 1 percent of infants were exclusively breastfed. Only 23 percent of infants are put to the breast within the first hour after birth; the majority of mothers wait until the second or third day after birth. Over 90 percent of mothers in Benin feed their under-6-months old infants more than 6 times during a 24 hour period, which is encouraging, but much less than the recommended 12 feeds for this age group (DHS, 1996). No data are available on length of feeds and night feeding.

The average duration of breastfeeding ranges from 18 to 24 months. Complementary food is usually introduced at three months, although the introduction of other liquids (tisanes) before breastmilk and throughout infancy is almost universal in Benin. These liquids are given because mothers think babies are thirsty or that mother's milk is not sufficient. Women's heavy work load, the inadequate training of health and social workers, and the insufficient emphasis placed on the nutritional status of pregnant and lactating mothers are constraints to optimal infant feeding and its promotion in Benin.

### ***National Policy and Institutional Framework***

The government has taken a number of steps toward improving breastfeeding and infant feeding. In 1992, the MOH produced a national policy statement for the protection, promotion and support of breastfeeding. The policy states reasons for carrying out breastfeeding promotion, lays emphasis on the 10 steps of the Baby Friendly Hospital Initiative (BFHI), debunks myths about breastfeeding practices, and stresses the importance of training. There is also a section on

regulations to be followed by health facilities concerning the marketing and use of breastmilk substitutes. All health facilities are asked to use this policy as a reference document for developing their own policy and defining the activities to be carried out in the various units in order to protect, promote, and support breastfeeding. The national policy document was sent to all six departments for dissemination. There was no national policy workshop to prepare this document. The policy does not clearly articulate what specific action should be taken at the level of each department or service/unit. Breastfeeding features as one of the main activities in the National Plan of Action for Nutrition (PANAN).

There is some confusion about the norm governing the duration of exclusive breastfeeding. The policy states that exclusive breastfeeding should be promoted until "about four months, whereas training materials say six months, and in the field, most health workers and mothers interviewed think it is three months.

The process of adoption of a national code for the marketing of breastmilk substitutes has been slowed down by recent ministerial changes. Meanwhile, instructions forbidding free samples and the sale and advertisement of infant formula in health facilities, have been issued through the policy statement. Beninese labor laws provide for a total of 14 weeks of paid maternity leave to pregnant women and requires nursing breaks for lactating women.

The National Breastfeeding Committee is led by a professor of gynecology, former dean of the faculty of sciences and health, who is also the national breastfeeding coordinator. The committee is made up of representatives from WHO, UNICEF, and the MOH (represented by the director of Family Health and the head of the newly created Nutrition Service). The then Ministry of Social and Women's Affairs was also represented, although after the recent ministerial changes, this Ministry has now become part of the MOH. IBFAN is represented by this national coordinator and his assistant, who are both clinicians. In late 1994 and early 1995, six regional coordination and training teams were set up, comprising health workers trained in breastfeeding during international seminars, and pediatricians and gynecologists within the regions.

The committee developed a national plan of action targeting 40 health units for the BFHI. The committee operates through the following activities: sensitization of health workers in the six regions, training of health workers, initial evaluation of BFHI activities in the health facilities, follow up, final evaluation, and award of the BFHI certificate. The committee has not met nor carried out any activities since more than a year ago. This is partly due to ministerial changes that have placed new authorities at different levels who need to be contacted and administrative transfers that have disrupted regional coordination and training committees, as well as the lack of time, given that the national committee members are also busy with other activities. The newly-created Nutrition Service is expected to play a central role in coordinating activities in a manner as to strengthen the committee's activities.

"Creches" or worksite facilities for the care of infants and to allow nursing mothers to breastfeed at work are not available in government or private workplaces, except in UNICEF. This is a

limiting factor to exclusive breastfeeding for working women. The family code is in the process of being adopted by the National Assembly.

UNICEF remains the main actor and donor in breastfeeding promotion through the Baby Friendly Hospital Initiative strategy, working in collaboration with the MOH and IBFAN-Benin. Forty health establishments in the six departments were targeted in the UNICEF/MOH 1994-98 program to become baby friendly. So far, 23 have received the BFHI designation. UNICEF and the MOH plan to work toward the certification of the remaining 17 by the end of 1997.

In collaboration with the MOH, UNICEF intends to gradually roll out the BFHI program to all the health facilities in the country, although no structures are being put in place to monitor activities and improve standards in the health facilities that already have the BFHI label. Concerning family planning, government's target is to increase contraceptive prevalence to 10 percent by the year 2000.

The Beninese International Baby Food Action Network (IBFAN), whose membership is made up mainly of public servants, was created in 1994 to support UNICEF and the MOH in the area of breastfeeding promotion, and also to promote appropriate weaning, child spacing, and improvement of maternal nutrition. In collaboration with UNICEF and the MOH, IBFAN organizes conferences, television and radio spots, and other activities to celebrate "World Breastfeeding Week."

In the area of breastfeeding promotion, IBFAN is involved principally in the creation of mother support groups through the efforts of its members. So far, 35 breastfeeding mother support groups have been created throughout the national territory. Recently, the Dutch government has given a grant of over three million francs CFA to IBFAN to develop billboards to promote breastfeeding. IBFAN intends to use part of the money to sponsor activities planned for the celebration of the next breastfeeding week. IBFAN is making efforts to seek collaboration with UNFPA to be a partner in the promotion of LAM as a contraceptive method and to seek USAID assistance in the development of IEC materials for breastfeeding promotion. IBFAN is also interested in doing some work on the code of marketing of breastmilk substitutes. Once the code is signed, IBFAN intends to make copies and distribute them as widely as possible as well as carry out sensitization campaigns and follow up of its implementation. IBFAN also participates in the certification process for baby friendly health facilities

### ***Training***

#### *In-service*

In-service training of health care providers and some social workers (N.B. The Ministry of Women and Social Affairs was recently transferred to the MOH) has been carried out both at central and peripheral levels by a national team of six core trainers, two of whom have participated in international courses in lactation management education (LME) organized in

Burkina Faso and in Benin. A number of these trainers are in prominent positions in the MOH, medical and nursing schools and IBFAN-Benin. So far, training has been piecemeal, targeting a few health and social workers at the 40 health facilities ear-marked for the BFHI through workshops and seminars. UNICEF and the MOH intend to progressively ripple down the trainings to all health units, both public and private, in the national territory. Departmental trainers have been trained and, in collaboration with the national team of trainers, will carry out training at the regional and peripheral levels with the supervision of the National Breastfeeding Committee.

There is no standardized national in-service breastfeeding training curriculum developed yet. However, the newly created Nutrition Service in the MOH has collected handouts on topics prepared individually by core national trainers and hopes to put all of them together into a curriculum. A review of these lectures and the training schedule shows that trainings are short (2.5 days) and the topics could have been better thought out in their sequence and in light of the major breastfeeding concerns in Benin, such as dwelling more on the topics of water, managing common breastfeeding problems, and signs to show that the baby is having enough.

The Diarrheal Disease Control Program (CDD) training workshops lay emphasis on the fact the breastfeeding should be continued during infant diarrheal episodes with no further explanations. The issue of what to do with an exclusively breastfed infant who is having diarrhea is not adequately addressed, which is often a point of confusion for mothers. Diarrheal disease treatment flow charts do not give any instructions on the treatment of diarrhea in the exclusively breastfed infant.

The INTRAH family planning training manuals available in family planning units have a section on exclusive breastfeeding (LAM) as a contraceptive method. Indications are that the quantity and quality of training for family planning workers on exclusive breastfeeding/LAM is not high.

#### *Pre-service*

In general, breastfeeding related content in medical and nursing school curricula is limited. Nutrition topics with chapters in breastfeeding, and infant and maternal (pregnant, nursing) nutrition, are general, not action-oriented, and are not current. No present initiatives are underway to revise curriculum to include updated breastfeeding information.

The Institute Régional de Santé Publique (IRSP) which offers a twelve month Master in Public Health Program (MPH) for doctors and senior health workers each year is open to the idea of organizing a regional course in lactation management education. The national school of midwives, nurses, social welfare assistants, and laboratory technicians still has an extensive training module on bottle feeding. Available information shows that only a few hours of lectures are devoted to nutrition and breastfeeding in the fifth year of medical studies.

### ***Health Facility-based Breastfeeding Promotion Activities***

The pyramidal structure of Benin's health care system has at the central level the National University Hospital Center (CNHU) responsible for tertiary and specialized care. At the regional level, the departmental hospital center (CHD) is the second level of referral unit that handles complicated cases referred from the sub-prefectural- (or district) level health centers (CSSP). There is a maternal and child health clinic (CSMI) at all regional headquarters. At sub-prefectural level, the CSSP provides both primary health care (PHC) and first-level referral care to patients referred from the communal health centers (CCS). The CSSP are sufficiently equipped with technical staff and equipment to serve as the first level of referral for the community-level facilities. At the community level, the CCS provides PHC and serves as the entry point into the health system. A number of demand-driven village health posts established by some villages have not been sustainable for a number of reasons, including the absence of fully functional outreach and referral system.

Breastfeeding promotion activities are carried out principally in the maternities, pediatric wards, and maternal and child health clinics. In each health facility, a few staff trained by the national trainers organize sensitization meetings on breastfeeding for the rest of the health facility staff. A health facility policy for the promotion of breastfeeding is elaborated. The policy spells out a list of activities to be carried out in the various units to protect, promote, and support breastfeeding.

An exit-type questionnaire was used by the assessment team during site visits to gather information from mothers in maternity wards and MCH clinics on breastfeeding practices and health facility-based breastfeeding promotion activities. An interview guide was also used to interview health and social workers in seven health facilities (one MCH clinic, one maternity, three community health centers in three different towns, one departmental hospital, and a Catholic mission hospital). Out of the seven health facilities visited, four have been certified as baby friendly facilities. UNICEF's breastfeeding posters were available in all hospitals. No bottles were found in any of the seven health facilities. All the health facilities were practicing rooming-in.

Health education was observed in two units (an MCH clinic in Cotonou and a communal health center in Bohicon, in Zou department ) on weaning (key points included starting weaning at 4 months; giving mushy foods made out of locally available sources of protein, carbohydrate and leafy green vegetables; and continuing breastfeeding) and another on the advantages of breastfeeding and the disadvantages of bottle feeding. In one of the health units, the spontaneous responses from mothers was a sign that the message was going across quite well. There was impressive support for the mothers and children from all the midwives, nurses, and student social assistants in the MCH unit.

Health workers in all the units noted that they had observed changes since their institutions began breastfeeding promotion activities. These changes included the disappearance of bottle feeding and a reduction in the cases of infant diarrhoea. However, these health workers indicated they

had difficulties in convincing mothers to practice exclusive breastfeeding given the entrenched practice of giving “tisanes” and the fact that mothers believe infants need “plain water.” There has been no breastfeeding qualitative research carried out in Benin. Few children were found beyond 3 months of age who were still exclusively breastfeeding. The importance of initiating breastfeeding within an hour of birth still poses a problem for health personnel—reasons range from maternal fatigue to the fact that the baby was still sleeping.

All the women interviewed had attended prenatal care and all except one (from a village) reported having taken iron/folate tablets during pregnancy and for some duration of time postpartum. About 75 percent had been informed about the benefits of breastfeeding, but very few had been told about maternal nutrition during pregnancy. Most of the mothers knew they had to breastfeed on demand and frequently, but few knew how to correctly express milk, how to increase milk supply, signs to show that the baby is getting enough milk, and that breastfeeding, when practiced optimally, can prevent pregnancy. Most of the women said no instructions had been given to them on what specifically to do about breastfeeding when the child is sick.

### ***Optimal Breastfeeding as Child Spacing Method***

Lactational amenorrhoea method (LAM) is currently not being proposed to women as an alternative for modern contraceptive during the first six months postpartum. Health care providers in family planning units have not received adequate training on LAM. Activity report forms from the MOH do not request information on LAM, nor does LAM feature on client cards. Family planning IEC materials do not integrate LAM as a child spacing method.

A national NGO, the Beninese Association for Family Planning (ABPF) conducts a range of activities including IEC and social marketing for contraceptives. IPPF and UNFPA fund ABPF's training activities and supply them with contraceptives. ABPF runs six family planning clinics in the six departments of Benin. Each clinic is run by a midwife and there is an animator who carries out IEC activities both at the clinic and within the community. ABPF has its own data collection and reporting system although all its clinics use government reporting forms to send data to the MOH. Neither reporting system asks for data on LAM. ABPF works with community agents who carry out community-based distribution of non-medical contraceptives (condoms and spermicides). ABPF has developed a rural radio network for community education on family planning, breastfeeding and other family health issues. During the second week of our visit, ABPF did a radio program on LAM using material provided by the BASICS / LINKAGES team.

According to the 1995 POPTECH population and family planning assessment report, the Ouémé departmental hospital is the only maternity that has a clear breastfeeding policy for its family planning unit; during family planning counseling, breastfeeding is proposed to women as another method of child spacing.

### *IEC Activities*

Breastfeeding is one of the themes commonly used for health education at MCH clinics, health centers, maternities, and women's groups. The aspects addressed during health education sessions deal mainly with its nutritional value and advantages as compared to formula. The concept of exclusive breastfeeding and LAM are not dealt with specifically. No technical guidelines on these two principal sets of behaviors are available to orient IEC sessions and individual counseling. Producing a simple counseling card and technical directives is thus, a high priority.

In the MCH clinics mostly, songs developed from breastfeeding messages are sung in the local languages to animate education sessions and transmit messages. There is at least one UNICEF poster with a woman breastfeeding her twins in every health unit, as well as the UNICEF/WHO list of 10 steps for successful breastfeeding. A variety of pictures (paintings, drawings and photos) can be seen. The ABPF clinic in Cotonou projects films on breastfeeding received from international sources. There are no information sheets for health workers. In some units, other types of posters are available: e.g., "Règles d'or face à la diarrhée," which includes a key message to continue breastfeeding. Another poster developed in 1993 by the MOH shows a breastfeeding woman. There is no message written on it.

### *Mother Support Groups*

Within the BFHI framework each of the targeted health units is supposed to create mother support groups in the surrounding community as a precondition to obtaining the BFHI designation. All certified hospitals in Benin have mother support groups. Groups usually start from one focal point at the level of a health unit. An interested lactating mother is sensitized to start a breastfeeding mother support group within her community and mothers are first referred to her. Then, little by little, the group increases in size and members are motivated to serve as group resource persons, moving from house to house to inform mothers about breastfeeding, as well as help them solve their breastfeeding problems. At least one meeting is held each month.

Information from IBFAN reveals that, so far, 35 mother support groups have been created in Benin. IBFAN-Benin is working with the groups already created. Presently, IBFAN is exploring the possibility of integrating the concept of breastfeeding support groups into already existing and more sustainable groups in the departments of Atacora, Borgou, and Zou.

The assessment team visited a mother support group in Cotonou. Thirteen of the group's members and two midwives, one from the Lagune Maternity from where the group originated and the other from CNHU maternity, were in attendance. Both midwives are members of IBFAN. The mother support group is made up of 15 regular members who meet once a month. Members include mothers of children aged a few weeks to over 4 years. An enlarged group meeting of about 45-50 women meets once or twice a year, when all the nursing mothers and pregnant women in the community who have been supported by the group are invited to attend.

The group began four years ago through the initiative of the midwife in-charge of the family planning unit at the Lagune Maternity. She identified a nursing mother who was interested in exclusively breastfeeding her baby and educated the mother about breastfeeding. When back home in the community, the maternity staff started referring breastfeeding women to her. As the group got bigger, meetings were held and group activities were developed. One of the members, who is now the president of the group, allows her house to be used for meetings. The group identifies all the pregnant and the nursing mothers in the community and sends group members to visit, educate, and give these women support on breastfeeding issues, as well as to invite them to group meetings. Group meetings consist of sharing information about breastfeeding experiences, supporting each other, and singing and dancing to songs mostly related to breastfeeding and vaccination issues. During group meetings and home visits, children's vaccination cards are checked to make sure that vaccination appointments are not missed.

The group faced some problems at the beginning. These included reticence from husbands to allow their wives to join the group because they were afraid this might be a political group. Some women complained that they do not gain anything financially from joining the group. Most women are generally too busy and lack the time for such group meetings. However, those who joined and stayed admit that they have gained much in terms of the information they have acquired and the fact that their babies are healthier.

According to group members, the group's motivation to continue has been driven by the fact that their children are healthier, but also by the fact that the midwife who started the group hails from that same community and has give them continuous moral and breastfeeding support. She assists in their meetings and also consults family members who are sick. The women feel that giving members financial loans to help them boost their business, or giving them the privilege as members of such a group to buy goods in bulk at a relatively reduced rate from a wholesalers, would go a long way to strengthen the group and ensure group sustainability.

### ***Summary Findings***

#### ***Policy and Program***

- There are wide differences in the recommendations being made on the duration of exclusive breastfeeding. The MOH policy needs to be clarified and widely disseminated.
- The national breastfeeding committee has not been active for the past year.
- The breastfeeding policy lacks specifications on the actions that should be taken at the levels of the various departments or units within health facilities.

### ***Technical Guidelines***

- There are no information sheets, posters, or flow charts with specific information/instructions to assist in the management of common breastfeeding problems or to use in the promotion of LAM as a method of child spacing.

### ***Training***

#### *In-service*

- There is no national standardized in-service breastfeeding training curriculum.
- There is no training strategy that makes provision for training-of-trainers and provides a systematic plan for training different levels of health workers in the country. Training has been piecemeal and always focused on key behavioral and operational issues.
- The network of social workers found in the health units and in the community (in regular touch with mothers and children) has received little or no training in breastfeeding, complementary feeding, or maternal nutrition.
- There is little breastfeeding content in the Diarrhea Disease Control Program.
- There is a lack of demonstration and counseling material for training and health education.

#### *Pre-service*

- To date, there have been no efforts to introduce breastfeeding into the curriculum for nursing, midwifery, and social workers.
- Breastfeeding content in the medical, nursing, and midwifery schools and the regional institute of public health is minimal. How to prepare bottle feeds still takes up a major portion of the nutrition content in the nursing and midwifery schools.
- The nursing and midwifery schools lack reference material with updated breastfeeding information.

### ***Family Planning and LAM***

- Staff working in Family Planning Units have received little or no training on breastfeeding/LAM as a child spacing method. As a result, women are not counseled on LAM as an initial family planning method. Staff also lack training in how to advise breastfeeding women about the proper choice of contraceptive methods.

### ***IEC and Community Support***

- Little or no IEC material is available on LAM. Existing family planning IEC materials do not contain or integrate the specific criteria needed for breastfeeding to be a postpartum family planning method.
- Mother support groups are being established slowly, with a lot of difficulty as to how to ensure sustainability.

### ***Monitoring and Evaluation***

- There is no system in place for regular monitoring of breastfeeding activities either at the central or at the health unit levels. ADLAC as a simple monitoring system could be introduced.

### ***Recommendations***

- An in-service breastfeeding curriculum development workshop should be organized. The same workshop could be used to develop the main messages for counseling cards to be used by social and community outreach workers.
- Provide assistance and training for family planning and LAM in the USAID project area. More training on breastfeeding should be provided to staff, especially social workers providing the bulk of counseling at the departmental and peripheral levels.
- Activities to integrate breastfeeding and nutrition into medical and nursing school curricula should be explored. These could include—
  - sensitization workshops for departmental chairpersons, deans of faculties, and other decision makers
  - assessment and review of existing didactic and clinical offerings
  - faculty development
  - actual curriculum changes needed and approval
  - faculty exchange programs
  - evaluation and follow through with documentation and expansion
  - assessment of materials and texts needed for teaching
- Assist program managers of Diarrhea Disease Control Programs to more effectively integrate breastfeeding promotion into their training, IEC, and social mobilization activities.
- Collaborate with UNFPA to revise the family planning training curriculum to include updated information on LAM.

- The MOH and UNFPA/ABPF should review health/family planning/nutrition data collecting and reporting forms in order to include breastfeeding and LAM indicators.
- Provide training on LAM to all health workers providing family planning services.
- Develop a full-scale IEC support program for breastfeeding and LAM to complement UNICEF-funded activities.
- Provide technical assistance to integrate LAM into family planning IEC materials.

## **E. Improving Child Nutrition**

The main nutrition interventions currently being carried out to address the poor nutritional status of children center around the following interventions:

- growth monitoring including nutrition education of mothers
- income generation activities
- nutrition rehabilitation activities
- weaning food products

Different community-based models to implement these interventions are being developed on a pilot basis by different agencies.

Two World Bank-funded projects, including PILSA under the Ministry of Rural Development, and the Projet Santé Familiale et Nutrition under the Ministry of Health, provide significant investments in the sector and support for the National Nutrition Action Plan. Additionally, CRS supports the Cellule PAN (Programme Alimentation et Nutrition) under the Direction de la Protection Sociale, formerly under the Ministry in charge of social affairs and now part of the Ministry of Health. The regional Center for Research in Health, CREDESA, has also developed a model for nutrition intervention as an integral part of the health care delivery system, while research on weaning foods has been carried out in Ouando. UNICEF has also initiated a test of a community-based nutrition system in Zou Department.

Following is a description of each of these programs.

### ***Food and Nutrition Program (PAN)***

One of the oldest nutrition programs in the country, PAN is jointly run by CRS and the Social Protection Department, recently moved to the Ministry of Health. The program stemmed from the transformation in 1982 of a food distribution program into a food and nutrition one centered on nutrition education of mothers and the monitoring of children's nutritional status. Since the inception of PAN, target age groups have been narrowed from 0-5 years to 0-3 years, and recently to 0-2 years. Activities include nutrition education through group animation and cooking

demonstration(s); growth monitoring of children's nutritional status; support to income generating micro-projects; and food distribution (monthly rations per child: 2 kgs of maize, 2 kgs of a soy-based milk-like product, and 1 kg of oil). PAN covers a population of about 50,000 children under 24 months and their mothers through 95 centers around the country (see Table 2). Based on recommendations from different evaluations, CRS is currently designing a community-based approach and targeting the intervention to high-risk zones using new selection criteria. The objectives of this redesigned program are based on the results of a knowledge, practices, and coverage (KPC) study that will serve as a baseline in the new villages. Criteria for selection of participant villages are such that the program will reach the neediest. Preliminary results confirm that inadequate feeding practices are highly prevalent in these disadvantaged communities and will be used to better target messages. It is expected that this approach will lead to improved results.

### ***CREDESA Nutrition Intervention Model***

CREDESA is a research center that spearheaded the scheme of management of health services that gave birth to the Bamako Initiative. CREDESA is located in Pahou in the Ouidah sub-prefecture and covers a population of around 70,000 inhabitants from 60 villages and 10 communes. The center also covers nine "sentinel" communes in six of the country's departments (total population of 54,500). The sentinel sites are designed to permit testing of community-based approaches in the different cultural contexts found in Benin.

The main innovation of CREDESA's nutrition intervention model is five fold: 1.) Use of a curative approach to initiate community activities to build credibility. CREDESA starts by recuperating malnourished children in the community using local foods. 2.) Community participation. 3.) Community financing. 4.) Multi-sectoral activities, including income generation, education, and food security. 5.) Attention to management, supervision, and training. CREDESA pioneered the home recuperation of malnourished children to overcome the time and financial constraints of mothers coming from long distances. During home visits, mothers are encouraged to join small loan programs of community banks set up by CREDESA. Production and consumption of soja as complementary to the basic corn flour diet is an important component. There is no food distribution; instead CREDESA provides a small aid to food-deficit households in the form of free drugs. Once the child is recuperated up to 80 percent weight-for-age, the community takes over through women's groups who represent a collective approach to nutrition education. This experience is led by social workers and has not been fully evaluated. A test of using the soja/corn mixture as an integral part of income generation should be undertaken by CREDESA.

### ***UNICEF-Supported Community-Based Information System (SIBC)***

Growth monitoring is used as an entry point for involving the community in the generation and use of socio-demographic and health information for action. This approach is based on the Triple A Model developed some years ago by UNICEF. It has been in operation since 1994. Activities

are targeted at children under-3-years of age in 20 villages in the Department of Zou. Five villages per sub-prefecture are participating, representing an estimated 30 percent of health facilities. Village-level activities are run by a village committee and two trained volunteer community agents called ACs (agent communautaire). Every trimester, the nutrition status of all participating children in the village is summarized and presented to the whole community. The visit made by the assessment team to two of the participating villages led to the following observations:

- There seems to be a greater awareness of nutritional needs of children among participants.
- Activities are continuing despite the request for financial and other incentives by the village committee and the AC responsible for implementation.
- The proximity of a CRS-supported program with free food distribution is disturbing the adhesion of the mothers in one of the villages visited.
- The data collection tools are too sophisticated for the low level of instruction of some of the ACs.
- There is considerable scope for simplification of the tool. The success rate is estimated at 40 percent by one of the supervisors. No formal evaluation has been done, however. According to the agent communautaire interviewed, they have noticed a reduction in the prevalence of severe malnutrition (red color) in their respective villages. There are still many cases of severe malnutrition in the villages, as seen on the quarterly community summary charts: example of the malnourished 14-month-old found in one of the villages who happens to be the village community agent's son. The child had chronic malnutrition that she was not able to control. USAID and BASICS could sponsor and carry out a case study of this experience as a contribution to the workshop on community-based cross fertilization of experiences planned by BASICS, in collaboration with the World Bank and UNICEF.

Additionally, UNICEF expressed concern about two program features:

- Motivation of the community agents (AC). Keeping up interest has been difficult. Motivation for maintaining the registry of births and deaths has been hardest.
- Information feedback to the community. A number of villages are finding it hard to assemble the community for the planned trimestrial feedback on the children's nutritional status, and interest appears to have waned.

### *The PILSA Model*

The pilot phase initiated in 1994 started with 50 villages, with a goal of reaching 200 by 1997. What is new in PILSA II is the nutrition component. Activities use an approach of education, growth monitoring, distribution of micronutrients, and referral to health rehabilitation centers when required. To catalyze these efforts, community animators are hired in each village, and a village committee is set up. How to pay the village agents has not yet been worked out, but may include revenue from sale of essential drugs. The objective for the three years of intervention in a village is to achieve self-sufficiency of the community involved. Two-hundred and thirteen villages in the 20 most food-insecure sous-prefectures in the 6 departments of the country are currently included. By the end of the fifth year, 400 villages are expected to be included. Twenty-six NGOs have already been selected as executing agencies. Funding for the nutrition component is \$ 2.7 million (accompanying micro-projects are budgeted separately). This allows for combined income generating activities and nutrition activities.

Effective coordination between PILSA and the other World Bank-funded project in the Ministry of Health at the central level, as well as at the peripheral level, will be critical to overcoming potential resistance regarding the inclusion of essential drugs and nutrition rehabilitation in PILSA. Clear concerted technical guidance needs to be given to field implementors.

### *The Ouando Experience*

Since 1963, a large number of research activities have been undertaken by the Centre Horticole et de Nutrition of Ouando (DANA). Emphasis has been on improving food production, including family gardens and small animal raising. A mother's club was set up for nutrition education with support from CRS. Major accomplishments include the production of an infant weaning food based on local foods. The major constraint is the product's high cost, putting it out of reach of low income families (see Table 2 below). The packaged weaning food costs CFA 450 per 500g, compared to CFA 200-300 for a comparable amount of corn or other staple food.

### *Nutrition IEC Materials*

Very few IEC materials of any kind are available. Existing materials reviewed tend to be inappropriate, with a focus on teaching food groups and technical information about different kinds of malnutrition. Practical behavior change messages, presented on simple counseling cards or easy to use flip charts, could be a big help to community agents and MOH personnel counseling mothers. At present, the information provided to mothers is often not specific and not targeted to the specific age group and nutrition problem of the child. All the agencies contacted felt that there is much room for improvement. basic set of IEC materials should be made for use by—

- Community agents
- MOH personnel

### *Summary of Findings and Gaps*

1. There is a general tendency to move nutrition interventions into the community and to create volunteer-based mechanisms to run them. But there is not yet a proven mechanism for providing a sustained incentive to the community worker nor proven models for supporting the intervention on a large scale.
2. Lack of coordination and concertation among the different agencies carrying out community-based nutrition intervention seems to be obvious.
3. The great variety of technical guidelines and tools with regard to the following elements may be problematic:
  - a) tools used for the information system (growth charts, indicators)
  - b) target age most vulnerable
  - c) protocols for rehabilitation
  - d) number of specialized committees created in each village
4. Data recording systems such as the one used in SIBC may be too complicated and difficult to be used effectively by most community workers whose level of education is low. (Nationally, the literacy rate for women of reproductive age is 30 percent.)
5. In Benin, a number of weaning food products have been produced and tested in a research setting, but never moved into a program setting. Yet, there is wide consensus that the lack of time and lack of suitable and affordable “weaning” foods are two principal factors for child malnutrition. Products which have proven successful in a research setting or on a small commercial scale and are ready for broader application include the soy-based “Farine de Bébé” produced in Ouando by DANA; “gari enrichie,” a cassava-based snack food enriched with red palm oil; “bouillie enrichie;” a fermented product similar to the “ogi” that USAID studied in neighboring Nigeria; and “maji enrichi,” a soya-enriched traditional food which UNICEF evaluated in its SBCS program. The income generating activities that accompany nutrition efforts do not often target such products for promotion and income generation. These vary from the artisanal production of “Ouando Farine Enrichie,” which sells 120 tons a year to the urban market to “gari enrichi,” a high energy young child snack food made in income generation schemes, to “bouillie enrichie,” the traditional porridge with added energy and protein content.
6. Promising ideas for making a nutritionally acceptable and yet affordable product available in the villages include—
  - Training and “franchising” local market women to produce an “improved” local weaning food. Candidate products are “bouillie fermentée,” a fermented

preparation that would be test-marketed in urbanized areas (40 percent of the population) and later in other areas.

- Provide solid marketing expertise to these income generation schemes so they can be put on a solid economic footing. Too many past efforts of this nature have been led by nutritionists and public health specialists, with not enough attention to the consumer and the bottom line.
7. Nutrition education is not well developed in the school system.
  8. Most of the educational material found in the field is outdated.
  9. Revised training modules in nutrition are needed within the Ministry of Health.
  10. Several nutrition surveys are taking place at the same time, but there doesn't seem to be enough coordination for better use of existing ones to maximize benefits.

### ***Recommendations***

#### ***Central-level Policy and Other Support***

1. Support should be given to the National Committee for Food and Nutrition to decentralize the National Nutrition Action Plan at the department level for operationalizing purposes. Activities may include workshops in each department.
2. The Ministry of Health should be assisted in its efforts to develop and/or revise national norms and standards with respect to all the priority nutrition interventions. This would include tools such as growth charts. Technical assistance can be provided in the launching of health facility quality reviews using rapid techniques.
3. Conduct qualitative studies using the WHO methodology for adapting nutritional counseling to local conditions. This will permit identification of key feeding behaviors for promotion via IEC efforts and to serve as a practical base for training front-line health workers and community agents in essential counseling elements. End IEC products would include a simple set of support materials for nutrition counseling. A number of the key nutrition implementing agencies are now poised ready to integrate such information and IEC products. This core information could be packaged and shared with NGOs participating in the BINGOS and other NGO networks, CRS, PILSA, UNICEF, and others working in the sector. (If funding is available this activity, should be initiated in the immediate future.)
4. Train representatives from NGOs working with communities in the project areas on the WHO methodology for adapting nutritional counseling to local conditions.

5. Support the testing of a small business enterprise in some villages to produce and sell enriched *gari* or *bouillie enrichie* as a weaning food for children and as an income generating activity.
6. Provide assistance to design and implement a Minpak of key nutrition interventions in one district or department. This will provide the country a model for strengthening the nutrition component of MOH activities at both the facility and community levels.

## **VI. SUMMARY OF FINDINGS, GAPS, AND RECOMMENDATIONS**

### **A. Context For Investing in Nutrition in Benin**

A number of favorable factors are present in the country for investing in nutrition. These are summarized here and presented in further detail in the report:

1. A well-articulated national nutrition plan is in place, one of only two in Africa. The document sets forth goals and priorities for action.
2. A new nutrition model is emerging for Benin based on pilot programs. There is widespread consensus about the failure of past nutrition efforts. Leading nutrition program implementation agencies have started to put in place new approaches which bring services directly to the community; include income generation activities, growth monitoring and counseling; and give community groups an active voice and role. Targeted food supplements are found in the large World Bank and CRS programs.
3. There is a critical mass of nutrition expertise in the country, as well as institutions engaged in program research and evaluation for nutrition. More than 100 technical specialists have emerged from the university since it began offering a nutrition program in 1980. These professionals can be found in public and private institutions throughout the country.
4. Recent creation of a Department of Family Health and a Nutrition Division within the Ministry of Health (MSPSCF) offers good potential to link nutrition into the health sector, an element that has been weak.
5. A number of donor agencies (World Bank, UNICEF, and CRS) have recently initiated major new nutrition programs, offering USAID important opportunities for collaboration and leverage of USAID resources.
6. An important start has been made in addressing iodine and iron deficiencies, as well as improving breastfeeding practices.

7. Completion of the demographic and health survey (DHS) provides a strong base of understanding about the nutrition situation in the country and an opportunity for initiating dialogue about nutrition. In particular, findings showing that poor birth spacing is directly linked to 40 percent of child malnutrition in the country can provide a new platform for policy dialogue about nutrition and population, with the goal of strengthening FP IEC in nutrition programs, and BFR in family planning.
8. Nutrition studies conducted over the past decade by research institutions, the university, and government agencies provide a good base for program planning.
9. The NGO health network now taking shape offers an efficient channel for transferring program experience as well as IEC products and training materials to the many NGOs operating in the country.

### ***Constraints***

1. The central-level Nutrition Unit in the MOH was created two years ago and is just beginning to develop its capacities.
2. Pilot nutrition efforts on which the “Benin Nutrition Model” is based have not benefited from evaluations, nor have there been mid-sized applications designed to orient programs going to scale.
3. The National Management Information System has not yet been revised to incorporate nutrition indications needed to serve as a management tool for the nutrition goals and actions targeted by the National Nutrition Plan of Action.

**B. Table 2. Status of Child Nutrition Interventions: Gaps and Recommendations**

Intervention	Current Status	Gaps	Recommendations
<p><b>Exclusive breastfeeding promotion</b></p>	<p>National policy statement issued in 1992.</p> <p>A national technical committee for BFHI set up.</p> <p>In-service training both at central and peripheral levels done by a national team.</p> <p>An evaluation team set up for the BFHI. No monitoring of other BF promotion activities.</p> <p>One UNICEF poster and UNICEF/WHO 10 steps available. No information sheet for health workers.</p> <p>35 mother support groups created.</p>	<p>Much discrepancy on the duration of exclusive breastfeeding among mothers and health personnel.</p> <p>No information sheets, posters or charts with specific information / instructions on how to manage breastfeeding problems or use LAM as a contraceptive method.</p> <p>No breastfeeding training curriculum developed yet.</p> <p>Staff working in Family Planning Units have received little or no training on breastfeeding/LAM as a child spacing method.</p> <p>Little or no IEC material is available on LAM.</p> <p>Existing family planning IEC materials do not contain or integrate LAM.</p>	<p>Mount national IEC effort in collaboration with UNICEF focused on exclusive BF and LAM.</p> <p>Develop counseling cards for social and community outreach workers.</p> <p>A curriculum development workshop should be organized.</p> <p>More training should be provided to MOH staff, especially at the departmental and peripheral levels.</p> <p>Activities to integrate breastfeeding and nutrition into medical and nursing school curricula should be explored.</p> <p>Provide assistance and training for family planning and LAM at the departmental level.</p> <p>Provide technical assistance to integrate LAM into family planning IEC materials.</p>

Intervention	Current Status	Gaps	Recommendations
<p><b>Complementary feeding</b></p> <p>Weaning food products</p>	<p>1) Ouando farine enrichie (corn, sorghum, rice/soya).</p> <p>Formula 1 = Age 4 to 6 months. Formula 2 = Age 6 and older (enriched with Fe, vitamins A, B1, B2, B12 and PP).</p> <p>Production: 100 to 120 tons/year.</p> <p>2) Fermented porridge enriched with soya flour.</p> <p>Approach tested and disseminated</p> <p>UNICEF is supporting gardening projects for soya production</p> <p>3) Yellow gari (manioc based flour enriched with yellow-palm oil).</p> <p>Pilot tested, but no follow up.</p>	<p>1) Cost above purchasing power of most rural population.</p> <p>2) Formula 1 is inconsistent with the EBF promotion policy (EBF for first four months).</p> <p>3) Heavily subsidized.</p> <p>No evaluation of the level of current dissemination and use.</p> <p>Documentation not available</p>	<p>Develop appropriate technology for household- based food fortification.</p> <p>To be promoted in a small business enterprise format for interested women in urbanized areas.</p> <p>Incorporate into income generating activities by NGOs.</p>
<p><b>Growth monitoring</b></p>	<p>1) Food and Nutrition Program (PAN).</p> <p>50, 000 children under 24 months of age and their mothers.</p> <p>7 % of total population 95 centers around the country 74% in public services.</p>	<p>(Evaluation results.)</p> <p>Low coverage.</p> <p>Low community participation.</p> <p>No demonstration of a reduction of malnutrition in the population covered.</p> <p>Food component is a strong incentive negatively other initiatives without it.</p>	<p>(CRS is developing a community-based approach.)</p> <p>Government should develop one national growth chart.</p> <p>CRS should strengthen the micro-projects for income generating.</p>

<b>Intervention</b>	<b>Current Status</b>	<b>Gaps</b>	<b>Recommendations</b>
<b>Growth monitoring (continued)</b>	2) Community-based information System (SIBC).  20 villages in 5 sous-prefecture in ZOU department.	Complicated system of data collection.  Too much information collected for action.	Simplification and adaptation of data collection tools.  Standardization at the national level.
<b>Nutrition education</b>	1) Integrated part of GM.  2) Nutrition education in elementary schools.	Vague messages.  Lack appropriate educational material (most currently available material is old and not geared to behavior change).  Curriculum need to be revised.	Provide training on the methodology for adapting nutritional messages.  Support nutrition curriculum to be developed by USAID School of Health Education Project.
<b>Nutrition rehabilitation</b>	1) On site. 2) At home.  Experiences are being developed by CREDESA and applied in the field by some NGOs	Mostly run by health professionals.	Test an approach involving village committee (small enterprise).
<b>Community-based approaches to nutrition intervention</b>	1) PBC (under development).  Transfer of activities from MCH clinics to communities to be tested in Ouémé Department.  Setting up of Comité Villageois de Development Social (CVDS).  2) Nutrition interventions in PILSA	Documented strategy received and will be fully analyzed for recommendations.  Weak nutrition capacity of NGOs.	Concertation with other funding agencies to integrate some lessons learned..  Support module revisions and dissemination.

Intervention	Current Status	Gaps	Recommendations
<p><b>Prevention of vitamin A deficiency through supplements and fortification</b></p>	<p>1) Supplementation.</p> <p>Limited supplementation activities are underway.</p> <p>It is estimated that not more than five of the country's 77 sub-prefectures are covered.</p> <p>Information from supervision visits shows that capsules are available in all centers in the target zones and that an estimated 50% of children are being covered.</p> <p>2) Production of vitamin A-rich foods and nutrition education has received less focus. In 1995, 10 women's groups in Atacora and 10 in Borgou received help to start vegetable production through UNICEF.</p>	<p>1) Additional donor initiatives are needed to improve coverage of vitamin A supplementation interventions.</p> <p>2) Insufficient epidemiological information to target supplementation programs and track progress.</p> <p>3) Additional program models are needed for distribution of supplements since only an estimated 57% of children nationally use curative services. (National Vaccination Coverage Study, 1995).</p> <p>4) Feasibility studies for a vitamin A fortification program should be conducted. DANA, which is responsible for food fortification, has expressed interest in looking at sugar fortification, based on the high consumption of imported sugar (mostly in cube form) from a limited number of producers.</p> <p>5) Improving health worker performance calls for development of supplementation guidelines, a revised mother's card, and improved skills of health workers at the facility level and for others distributing vitamin -A capsules.</p> <p>6) Given growing number of programs, revised monitoring and evaluation systems are needed to track supplementation efforts.</p>	<p>It is suggested that USAID mount a supplementation program in the areas where they will be working. As for longer term strategies for addressing the problem, USAID could support a feasibility study for sugar fortification.</p>

Intervention	Current Status	Gaps	Recommendations
<b>Prenatal Iron Supplements</b>	<p>Government norms stipulate that iron folate tablets be distributed to all pregnant women attending MOH facilities. Iron is classified as an essential drug and is made available by the “Centrale d’Achat.”</p> <p>Statistics from SNIGS indicate that iron folate tablets (and Nivaquine) are being regularly distributed to women attending prenatal clinics.</p> <p>Women interviewed as part of this assessment all reported having received iron, and having taken the tablets.</p>	<p>1) An iron study is required to further assess availability of iron/folate tablets; explore compliance and issues to increase it; and examine iron reserves of women to determine how effective the supplementation program is in practice. Iron/folate tablets represent the second most frequently distributed essential drug, and a considerable cost to consumers.</p> <p>2) Explore feasibility and potential coverage of an iron social marketing program to reach undeserved populations.</p>	<p>A social marketing approach is proposed as a way to reach the many women who do not have easy access to health facilities and may wait too long before starting to take iron/folate tablets. Iron/folate, which is on the list of scheduled drugs, is already being sold.</p>
<b>Prevention of iodine deficiency through fortification, supplementation and promotion of iodized salt at the household level</b>	<p>1) Benin has made remarkable progress in eradicating iodine deficiency disorders (IDD) since adopting a national policy in 1995 to iodize all imported salt.</p> <p>2) Universal salt iodization is presently under study by the National Assembly. In the meantime, efforts are being focused on starting up two plants for iodization of local salt (Ouidah and Comé).</p>	<p>1) No major gaps were identified. This is an area where UNICEF leadership has been strong and continued support is expected.</p> <p>2) If USAID selects one of the northern, most affected provinces as a projects site, incorporation of an iodine supplementation activity may be required. Not enough is known about the supply of iodized salt in the north to comment on appropriateness of activities to stimulate purchase at household level.</p>	

### C. Recommendations

The following recommendations reflect government priorities, USAID objectives, and the team's assessment of interventions that have high potential for helping to achieve improvements in availability and quality of RH services; increase in demand for quality services and products; and sustainability. Investment commitments of other donors are taken into consideration to avoid duplication.

## *1. Breastfeeding*

### **Support the national goal of promoting exclusive breastfeeding through 4 months and introduce LAM as a postpartum option**

This would complement UNICEF's continued commitment to the Baby Friendly Hospital Initiative. Assistance would consist of full-scale IEC media efforts to improve practices; development of policies and norms to increase the quality of care at all facility levels (but especially below hospitals); assistance in developing a training and supervision framework for different categories of personnel in the private as well as public sector; help with development of reference curricula; and revision of IEC support materials for family planning, diarrhea disease control, and other high-relevance topics to include breastfeeding and LAM. Additionally, monitoring and evaluation systems now in use would be reviewed and revised as appropriate. Integrate breastfeeding and nutrition into medical and nursing school curriculum.

## *2. Iron*

### **Launch a social marketing program for prenatal iron/folate tablets**

The private sector offers an unexploited potential for addressing the high prevalence of maternal anemia in the country. A social marketing approach is proposed as a way to reach the many women who do not have easy access to health facilities and may wait too long before starting to take iron/folate tablets and who may not take the tablets frequently enough. The DSF is interested in testing the idea as a way of complementing the facility-based approach now utilized. Iron/folate, which is on the list of scheduled drugs, is already being sold.

## *3. Vitamin A*

### **Mount a supplementation program in USAID project area**

There has been little donor attention to this micronutrient in Benin. Given the suspected widespread nature of the problem, it is suggested that USAID mount a supplementation program in the areas where they will be working. As for longer term strategies for addressing the problem, USAID should support a feasibility study for food fortification.

## *4. Complementary Feeding*

### **Fund development of a behavior change approach to improving infant feeding practices, with elements that can be readily incorporated by the World Bank PILSA, CRS, UNICEF, and other ongoing nutrition programs**

While there is wide-scale agreement in Benin that "nutrition education" as traditionally practiced has not worked, use of behavior change strategies are just beginning to be applied. This is an area

where USAID has much experience and a strong comparative advantage. It is recommended that USAID fund the basic qualitative research needed to establish concrete behaviors that can then be used as elements for IEC materials and training content, as well as for adapting the WHO training module for IMCI. The timing is opportune. USAID support to this series of activities could be immediately applied to the large-scale CRS and World Bank PILSA projects.

It is further recommended that a basic kit of nutrition support materials be developed and made widely available. There is presently a dearth of well-designed, attractive, and audience tested materials. Experience in the region (Nutrition Communication Project in Niger, Mali, and Burkina Faso, and the West Africa Family Health and AIDS Prevention Project) indicates that there is a demand for such materials. Part of the proposed strategy is for USAID to make materials available to NGOs, PILSA, UNICEF, CRS, and others. A deliberate policy of involving key organizations in the design process and incorporating their needs when ordering materials in the initial printing can be successful. PVO networks such as BINGOS and the nascent coalition of health sector NGOs can play a pivotal role in transferring materials. Additional impact can be gained by supporting the electronic sharing of this information and materials via electronic networks now being developed by RAINSA and others.

Lastly the assessment team recommends that USAID look at ways of making improved complementary foods and greater convenience available to low-income families. Experience in Benin has clearly established that lack of time and money are prime constraints to improving child nutrition when transitioning from the breast to the family pot. Candidate products for more wide scale testing are available, which include "garri enrichie," a calory-dense cassava snack food fortified with yellow palm oil; fermented products; and "bouilli enrichie." The proposal is to train and "franchise" market women in target villages to prepare and sell these foods as income generation activities. Selection of an NGO partner in the zone, such as CRS, would link in the activity to income generation. Initially, this would be tested in urban or semi-urban areas.

## **5. IEC**

### **Develop a basic set of IEC materials, and elements for interpersonal training, radio, and other dissemination channels**

Conduct qualitative studies using the WHO methodology for adapting nutritional counseling to local conditions. This will permit identification of key feeding behaviors for promotion via IEC efforts and to serve as a practical base for training front-line health workers and community agents in essential counseling element. End IEC products would include a simple set of support materials for nutrition counseling. A number of the key nutrition implementing agencies are now poised ready to integrate such information and IEC products. This core information could be packaged and shared with NGOs participating in the BINGOS and other NGO networks, CRS, PILSA, UNICEF, and others working in the sector. (If funding is available, this activity should be initiated in the immediate future.)

Train representatives from NGOs working with communities in the project areas on the WHO methodology for adapting nutritional counseling to local conditions.

## **6. MINPAK**

### **Implement MINPAK—a basic package of key nutrition interventions—in the zone chosen for implementation of the Family Health Project**

Implement MINPAK—a basic package of key nutrition interventions—in the zone chosen for implementation of the Family Health Project. This will provide the country a model for strengthening the nutrition component of child survival activities at the facility level, as well as systems for linking the facility to the community level. No such models presently exist, and with the new nutrition mandate for the MOH, this could have large potential payoff.

#### **D. Further Studies and Immediate Needs**

##### **1. *Small-scale Study for Marketing Iron/folate***

Conduct a small-scale exploratory study as a base for marketing iron/folate through the commercial sector. This study would look at supply issues, explore consumer perceptions and constraints to use; look at pricing and distribution issues; and could also include a component to evaluate the iron status of those enrolled in the prenatal iron distribution program through the prenatal clinics. Such a program could serve as a model for programs to address anemia throughout the West Africa region.

##### **2. *Behavioral Change Strategies***

Now is an opportune time to conduct qualitative research needed to develop practical and consumer-oriented target message for improving infant feeding practices. If such work is conducted soon, it could feed into a number of new nutrition projects including the redesigned CRS Community Nutrition Program, PILSA, and others.

##### **3. *PROFILES***

The Mission could use the release of the DHS data to dialogue with the government about the relation of nutrition problems and birth spacing, as well as use the data to help further focus the action strategy for the national nutrition plan. In particular, it would be helpful at this time to focus attention on the economic consequences of poor breastfeeding and infant feeding practices. PROFILES, an inter-active computer software, can be a powerful tool for helping nutrition and health professionals look at program options, and various coverage and cost options for addressing nutrition problems.

**APPENDIXES**

**APPENDIX A**

**STRATEGIC OBJECTIVES FOR THE FAMILY HEALTH PROJECT**

ANNEX A

# FHT RESULTS FRAMEWORK

AGENCY GOAL

WORLD'S POPULATION STABILIZED AND HUMAN HEALTH PROTECTED IN SUSTAINABLE FASHION.

MISSION GOAL

INCREASE PARTICIPATION IN BENIN'S ECONOMIC DEV. (AND IMPROVE SOCIAL WELL-BEING AND HEALTH STATUS)

STRATEGIC OBJECTIVE

INCREASE USE OF QUALITY REPRODUCTIVE HEALTH (RH) SERVICES (AND STD/HIV/AIDS PREVENTION SERVICES)

Intermediate Results

INCREASE AVAILABILITY OF QUALITY RH SERVICES & PRODUCTS.

Increase number of health agents trained to provide quality RH services.

Increase availability of RH products through social marketing.

Improve logistical system.

Support community based distribution of quality RH products.

Increase supply of commodities.

Provide monitoring of training program.

INCREASE DEMAND FOR QUALITY RH SERVICES & PRODUCTS.

Increase awareness of RH services.

Improve national IEC program.

Reduce barriers to demand for RH services.

SUSTAINABILITY.

Improve RH policy environment.

Increase involvement of private sector in RH services.

Improve donor collaboration in RH.

Improve planning & financial management system of the health sector.

Strengthen the capacity of community-based organizations to manage health services.

**APPENDIX B**

**LIST OF BABY FRIENDLY HOSPITALS**

**Annex B**  
**List of Baby Friendly Hospitals**

Ordre	ATACORA	
1	CHD ATACACORA	IHAB
2	CS/CU Natitingou	IHAB
3	CS Bassila	Avancé
4	CS Djougou	Non Avancé
5	CS Kouandé	Non Avancé
	ATLANTIQUE	
6	Cotonou 3	IHAB
7	CSMI	IHAB
8	CNHU	IHAB
9	Maternité Lagune	IHAB
10	Abomey Calavi	IHAB
11	Hôpital Saint Luc	IHAB
12	Allada	IHAB
13	CS Zogbo	Nor. Avancé
14	Hôpital Ouidah	Non Avancé
15	Cotonou II	IHAB
16	Houénoussou	IHAB
	BORGOU	
17	Hôpital Saint Jean de Dieu de Boko	IHAB
18	CHD Borgou	IHAB
19	Malanville	Avancé
20	Kandi	Avancé
21	Hôpital Bembéréké	IHAB
	OUEME	
22	CS/SP Kétou	Non Avancé
23	Adjohoun	Avancé
24	Pobé	IHAB

25	Sakété	IHAB
26	Adjarra	IHAB
27	Huonssouko	IHAB
28	CHD	IHAB
29	ZEBOU	IHAB
	<b>MONO</b>	
30	Dogbo	IHAB
31	Corné	Non Avancé
32	Aplahoué	Non Avancé
33	Lokossa	IHAB
	<b>ZOU</b>	
34	Bantè	Non Avancé
35	CHD	IHAB
36	Ouèssé	Avancé
37	Savalou	Non Avancé
38	Covè	Avancé
39	Bohicon	Très Avancé
40	Abomey	Avancé

56

**APPENDIX C**

**MAP AND LIST OF PRIORITY ZONES FOR NUTRITION**



ANNEX C

World Bank Food Security Project  
Priority Areas at Risk

Department	First priority areas at risk	Second priority areas at risk
Atacora	Boukoumbe, Materi	Natitingou, Cobly
Atlantique	Ouidah	So-Ava, Kpomassé
Borgou	Karimama	
Mono	Bopa, Comé, Grand Popo	Dogbo
Ouémé	Aguégués, Sémé-Podji	Dangbo
Zou	Za-Kpota, Agbagnizoun	Zagnagnado, Zogbodomé, Cové

**APPENDIX D**  
**LIST OF DOCUMENTS CONSULTED**

## LIST OF DOCUMENTS CONSULTED

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