INFANT AND CHILD FEEDING PRACTICES

IN BURKINA FASO

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I. INTRODUCTION

The purpose of this report is to 1) outline findings from intensive review of available information on infant and young child feeding practices in Burkina Faso and 2) suggest areas for exploration in follow-up ethnographic research. To date a comprehensive study on this subject has not been conducted and would be a valuable contribution to the literature on child nutrition in West Africa. Consequently, the information presented here has been culled from a variety of documents each with a slightly different research focus and regional area of study.

This report is organized into four main sections. First, relevant background information is presented on the social and cultural context of infant and young child feeding in Burkina Faso including ethnicity, religion, descent systems, marriage patterns, fertility, and food taboos during pregnancy.

Household food preparation and food consumption follow with a description of individuals responsible for meal preparation, methods of preparing the dietary staple and condiments, family meal consumption, and the dietary pattern.

The next section on infant and child feeding includes information on 1) breastfeeding (duration, influencing factors, and use of colostrum), 2) introduction of complementary foods (age at introduction, types of foods given, frequency of feeding, child food taboos, and factors affecting weaning food use), and 3) weaning practices.

The last section summarizes the key findings and recommends

areas for follow-up ethnographic research.

II. SOCIAL AND CULTURAL ENVIRONMENT

A. ETHNICITY

According to the Survey on Infant and Child Mortality in the Sahel (EMIS/Burkina, 1988), there are approximately 20 different ethnic groups in Burkina Faso. The central region of the country is occupied principally by the Mossi and Gourounsi. The Peul (more commonly known as the Fulani) are primarily pastoralists and live in the northern region of the country; the Gourmantche live in the southeast. The west and southwest regions are principally occupied by the Samo, Marka, Bwaba, Bobo, Senoufo, Toussian and Lobi ethnic groups. Refer to Figure 1.

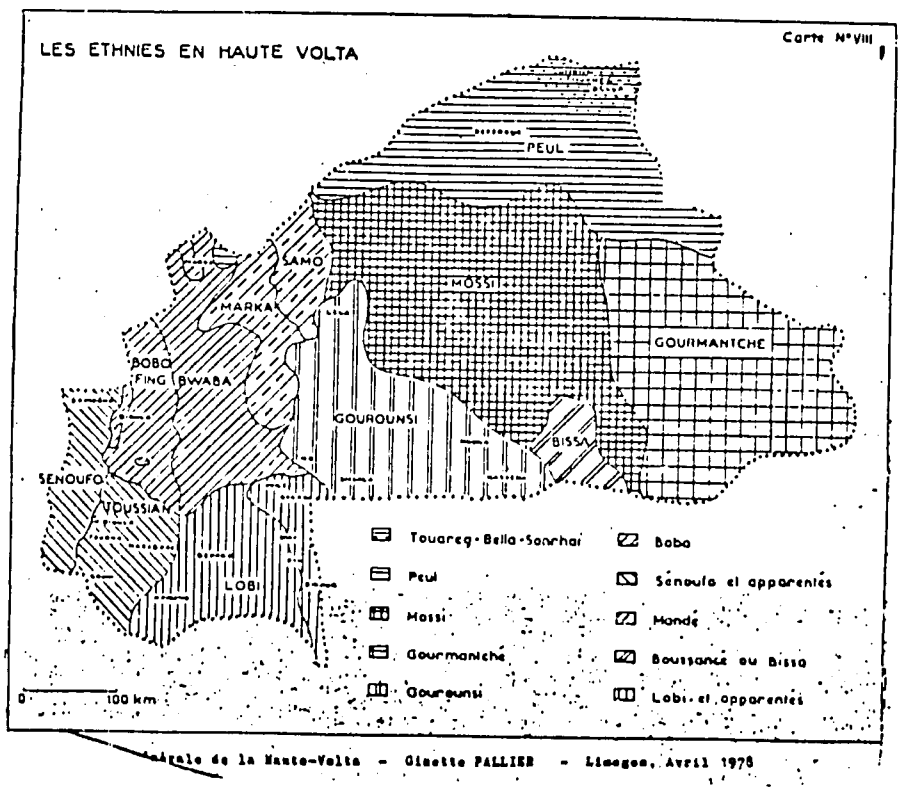

Figure 1. Map of ethnic groups in Burkina Faso (INSD, 1981).

Based on a crude approximation from available maps, the three provinces targeted for the AED Nutrition Communication Project are settled principally by the following ethnic groups:

- Passore Province: Mossi
- Soum Province: Peul
- Houet Province: Bobo and Bwaba

B. RELIGION

The principal religions in Burkina Faso are Animism, Islam, and Christianity. Christianity which is markedly less prevalent than both Animism and Islam, is more often practiced in urban than rural environments (EMIS/Burkina, 1988). Table 1 illustrates the proportionate distribution of these religious groups in 1960 and 1976.

Table 1. Distribution of the Population of Burkina Faso by Religion - 1960 and 1976 (United Nations, 1984).

RELIGION	1960	1976
Animism	68.7%	47.1%
Islam	27.5%	44.2%
Christianity	3.8%	8.7%
Total	100.0%	100.0%

C. DESCENT SYSTEMS

Descent systems, a basic component of kinship organization, define an individual's social category not with reference to a

living person but to an ancestor. They also delineate the limits of descendants' rights and can exclude those who are not entitled to membership in the descent corporation.

The National Institute of Statistics and Demography (INSD) conducted a qualitative study of "folk-demography" on the Gourmantche, Bwaba, Peul, and Lobi ethnic groups in Burkina Faso (1981). They briefly outlined the descent systems of these four ethnic groups. The Gourmantche, Bwaba, and Peul are patrilineal with virilocal residence, i.e. descent traced through a line of ancestors in the male line and residence established with the husband's kin. The Lobi descent system is bilateral with virilocal residence, i.e. kinship is traced to relatives through both the mother and father and residence is established with the husband's kin.

D. MARRIAGE PATTERNS

Both monogamy (marriage of a man to one woman) and polygyny (marriage of a man to more than one woman) are practiced in Burkina Faso. However, only Animists and Muslims have polygynous households. The four ethnic groups studied by the INSD (1981) have the following frequency of plural marriage based on the number of married men in each sample: Lobi - 32.8 percent, Gourmantche - 26.3 percent, Bwaba - 25.7 percent, and Peul - 17.3 percent.

Marriage has important ramifications for wives and mothers with respect to their access to the household food supply. While females born into a family have full right to enter its granaries,

women who marry into a family may not always have the same rights of access. Several possibilities exist:

> "...1) a woman may have her own granary into which is put a share of the harvest equal to her husband's; 2) she may have a granary for herself and free access to her husband's; 3) she may have access to her husband's granary only with his permission; or 4) she may not have access to any granary under <u>any</u> circumstances." (Hagaman et al., no date)

E. <u>FERTILITY</u>

The "Folk-Demography" study in Burkina Faso (INSD, 1981) reports that the number of children in a family is a sign of prosperity. Children are responsible for the perpetuation of the family as they assume adult roles. The importance of having children is reflected in the perceived ideals for men and women. The more children a woman bears the more she is respected and admired. Likewise, the ideal man is one with many wives who is virile and has fathered many children.

A cultural system of fertility rites and beliefs has evolved in Burkina Faso. Some aspects of this system relate directly to dietary intake. For example, to the Bwaba, fertility is represented in all foods with high moisture content, a sign of prosperity and abundance. They believe that pregnant women should consume plenty of these foods. They include acidic fruits such as tamarind, <u>sauce de dah</u> (a type of sorrel), <u>karite</u>, and walnut

butter. Conversely to the Bwaba, sterility is represented by dryness. Honey, perceived as a very dry food, should never be consumed by women hoping to become pregnant (INSD, 1981).

With respect to contraception, lactational amenorrhea plays the major role in traditional child-spacing in Burkina Faso. Although there is taboo on post-partum sexual relations, its length is much shorter than the duration of breastfeeding (van de Walle, 1987)

F. FOOD TABOOS DURING PREGNANCY

The "Folk-Demography" study (INSD, 1981) identified the following foods avoided by pregnant women of the Gourmantche, Peul, Lobi, and Bwaba ethnic groups in Burkina Faso.

GOURMANTCHE: Cold foods prepared by an old woman. These foods must be reheated before consumption by pregnant women. The Gourmantche believe that demons come in the night to take their share of these foods. Reheating will remove any trace of the demon's presence which is believed to harm the developing infant.

PEUL: The heads and feet of animals. Consuming these would cause the woman to give birth to a monster. Poultry and fish. Islam forbids the consumption of animals that are not ritually slaughtered. This belief is localized to the Peul living in northeast Burkina

Faso. This practice should not be extended to all Peul.

LOBI: Salt and sugary foods (these are recommendations more than taboos). Consuming these foods is perceived to cause a difficult delivery.

BWABA: All sugary foods but particularly honey (perceived to induce abortion), salty foods, eggplant, pork (will cause infant to have pig teeth), peanuts/groundnuts (will cause infants to be gourmand), and the meat of pregnant animals (woman will have a difficult delivery).

III. HOUSEHOLD FOOD PREPARATION AND CONSUMPTION

A report on nutrition surveillance in Burkina Faso prepared by Reeser (1986) provides much of the following information on food preparation and consumption in this country.

A. FOOD PREPARATION

Typical households consist of an extended family ranging in size from 5 to 13 individuals with an average of 7 to 8 consumers per household (Service d'Alimentation, 1981). The number of meals cooked per day varies from one to three depending on factors such as other demands on women's time (seasonally determined), size and composition of the household, availability of fuel and water, and food reserves.

In polygynous households, the responsibility of meal

preparation for the entire household rotates among wives (Zeitlin, 1978). A wife whose turn it is to sleep with her husband also cooks for him (and possibly for the entire household) on those days (Hagaman et al., no date). Uncooperative wives with access to the household food supply may cook separately for themselves and their children. However, those refusing sexual relations with her husband and having no access to the granary can feed neither themselves nor their children.

Although cooking communally is an efficient use of resources and time, the total amount of food prepared for the family meal may be inadequate to satisfy the appetites of all members, especially children. If a woman has access the household granary, she can prepare additional food for consumption only by her children.

The dietary staple is a doughy mixture called toh which is usually made from millet or sorghum but can also be made from rice, maize, or yams. Its viscosity varies from a soft paste to a stiff dough and thus can be eaten with the hands. The method of preparing toh is as follows:

Morning steps

1. Grain is taken from the granary and winnowed to remove ashes and to repel insects during storage. The grain is lightly beaten, winnowed and rinsed.
2. Grain is pounded by hand in a large mortar with a pestle. This step separates the bran and germ which are then removed by sifting. The bran and germ of most grains except maize may then be prepared separately as bouillie (a thin porridge), a

food commonly fed to young children.

3. Grain is repounded with water, washed, drained, and sun-dried.

Afternoon steps

4. After grain has swollen and dried, it is ground into flour on a stone slab by hand.

5. While water is heated, flour is sifted and a portion is mixed with water.

6. The flour mixture is then stirred into boiling water and the remaining flour is gradually beaten in. It is usually cooked up to 1.5 hours. Acidic ingredients such as lemon, vinegar, tamarind or potash may be added to make the mixture tart and to increase the "shelf-life" of the product. (Some evidence suggests that more tamarind is added to toh to increase its safe storage to several days in households where women participate fully in agricultural activities.)

7. When cooking is complete, the toh is cooled in large bowls. When cool, it is transferred to communal serving bowls (calabashes).

Sauces which may be cooked for hours are usually prepared as condiments to be eaten with the toh. They usually consist of a wild or cultivated vegetable (okra, sorrel leaves or kapok flowers) or fruit (e.g. tamarind) and a protein source such as fermented locust bean or nere seeds, dried fish or meat, peanut butter, beans, yeast or occasionally fresh meat such as beef, offal, goat, or chicken. Tables 2 and 3 contain a list of the principal dietary items and those high in nutritional value, respectively.

SOURCE: Reeser, 1986.

TABLE 2

PRINCIPAL FOODS IN THE DIET

Burkina Faso

GRAINS

Millet (mil) | Toh, bouillie
Sorghum (sorgho) | Toh, bouillie
Corn (mais) | Toh, bouillie
Rice (riz) | Toh, bouillie
Wheat (ble) - bread, - galettes - beignets | Urban areas
Fonio - during shortages
Sand bur-grass - "cram-cram", during shortages

TUBERS AND ROOTS

Yams (igname)
Sweet potatoes (patates douces)
Potatoes (pommes de terre)

Yam-bean (haricot-igname)
Plantains (banan plantin)

ANIMAL PRODUCTS

Dried fish, pounded (poisson seche pile)
Dried meat, pounded (viande sechee ecrasee)
Whole eggs (oeufs entiers)
Cow's milk (lait de vache)
Soymilk "VITA-LAIT" (lait de soja)
Chicken (poulet)
Fresh meat and offal (viande fraiche et abats)
Guinea fowl (pintade)

VEGETABLES

Okra (gombo)
Red sorrel, leaves and flowers (Oseille de Guinee, feuilles et fleures), "Dah"
Baobab leaves (feuilles de baobab)
Bean leaves (feuilles d'harico:)
Sweet potato leaves (feuilles de patates douces)
Manioc leaves (feuilles de manioc)
Sour tomato leaves (feuilles de tomates ameres)
Dark green leaves (feuilles vertes) "kennebdo"
Tomatoes (tomates)
Le bun du
Sour eggplant (l"aubergine amere) "Koumba"
Wild green leaves (feuilles de cueillettes)
Kapok fruit calice (calice du fruit du kapokier) "voaga"
Onions (oignons)
Shallots (echalotes)

FATS & OILS

Sheanut butter (beurre de karite)
Peanut oil (huile d'arachide)
Palm oil (huile de palme)
Butter (beurre)
Animal fat: (graisse d'animal)

LESSER USED PROTEIN SOURCES

Grasshoppers (sauterelles)
Termites
Sheanut caterpillars (chenilles de karite)
Field rats (rats des champs)
Squirrels (ecureuils)
Snakes (serpents)
Lizards (lezards)
Frogs (grenouilles)

TABLE 2
(continued)

LEGUMES AND SEEDS

Fermented locust bean ("nere soumbala")
Fermented soybean (soumbala de soja)
Nere powder
Dried beans, cowpeas (haricots secs) "niebe"
Peanuts (arachides en graines)
Peanut cakes (tourteau d'arachide) "koura-koura"
Earthpeas ("pois de terre")
Sesame seeds
Squash seeds (graines de courge)
Cotton seeds (graines de coton)
Baobab seeds (graines de baobab)

FRUITS

Sheanut fruits (fruit de karite)
Mangoes (mangues)
Guava (goyave)
Orange (orange)
Mandarin oranges (mandarine)
Papaya (papaye)
Pineapple (ananas)
Banana (banane)
Watermelon (pasteque)
Lemon (citron)
Avocado (avocats)
Wild fruits and berries (e.g, jujubes, raisins sauvages)
Tamarind (tamarin)
Soursop (corossol)
Dates (dattes)
Cotton fruit (fruit de coton)
Nere fruit (fruit de nere)
Baobab fruit (fruit de baobab) "pain de singe"
Le Kagha
La pomme cannelle sauvage
Le sibi
Le kyeghella

MISCELLANEOUS

"Dolo" - traditional home-brewed sorghum beer
Coffee, Nescafe (cafe Nescafe)
Tea, Green Chinese (the)
Maggi cubes (cubes maggi)
Kola nuts (noix de kola)
Hot peppers (piments)
Salt (sel)
Sugar (sucre)
M.S.G. (monosodium glutamate)
Potash (potasse)
Yeast (levure de dolo)
Water lily (nenuphar).
- seeds (graines)
- bulbs (racines)
- flowers (fleurs receptables)
sardines, canned; (sardines en boite)
Plain cookies, packaged; (biscuits)
Bean doughnuts (beignets d'haricots)

TABLE 3

LOCAL FOODS HIGH IN NUTRITIONAL VALUE

(per 100 grams edible portion)

FOODS HIGH IN PROTEIN

FOODS HIGH IN ANIMAL PROTEIN	
-Insectes séchés	52,9 %
-Oeuf de poule ou de pintade	11,8 %
-Poisson séché	47 %
-Silure fumé et pilé	49 %
-lait de vache	3,8 %
-Viande de boeuf	22,6 %

FOODS HIGH IN VEGETABLE PROTEIN	
-Levure de dolo	51,9 %
-Soumbala	36,5 %
-Tourteau d'arachide	36,1 %
-Farine de graine de coton	32,9 %
-Arachide grillée	26,5 %
-Pois de terre	20,9 %
-Sésame	17,9 %
-Haricot sec	21,7 %
-Feuilles de baobab séchées	22,6 %
-Bulvaka séché	19 %
-Feuilles de bito séchées	14,3 %
-Gombo sec	10,8 %
-Graines de soja	33,7 %

FOODS HIGH IN CALCIUM	
-Lait de vache	143 mg%
-Feuilles de baobab sechées	2266 mg%
-Feuilles de haricot sechées	1558 mg%
-Bulvaka sechces	1549 mg %
-Feuilles d'oseilles de guiné	1010 mg %
-Gombo sec	825 mg%
-Voaka	741 mg%
-Poisson fumé avec arêtes	1840 mg%
-Levure de dolo	232 mg%

FOODS HIGH IN IRON	
-Feuilles de baobab sechees	25 mg%
-Gombo sec	26,3mg%
-Feuilles de haricot sechées	12 mg%
-Levure de dolo	20 mg%
-Bulvaka sechées	8 mg%
-Epinard frais	8,9mg%
-Tourteau d'arachide	18,3mg%
-graines de soja	6,1mg%
-haricot sec	8,2 mg%
-Mil (graines)	20,7mg%
-Sésame	8,1mg%
-Pois de terre	16mg %
-Soumbala	36,5mg%
-Farine de graine coton	10,2 mg%

FOODS HIGH IN VITAMIN A (mcg of retinol)	
-Feuilles de baobab sechées	1520mcg %
-Niébé (F) fraiches	1328mcg%
-Bulvaka frais	3205mcg %
-Feuilles de manioc	1962mcg %
-Pulpe de Néré	1215mcg %
-Courge fraiche	633mcg %
-Carotte	913mcg %
-Mangue	502mcg %
-Oeuf de poule	350mcg %
-Papaye	37300mcg %
-Huile de Palme	128700mcg %
-Foie de boeuf	12292mcg %

FOODS HIGH IN VITAMIN C	
-Kagha (détar)	1 290 mg%
-Pulpe de Néré	242mg%
-Feuilles de manioc fraiche	311 mg%
-piment sec	180 mg%
-Wogdo frais	134mg%
-mangue fraiche	68mg%
-goyave	152mg%
-aubergine indigène	50mg%
-orange mandarine	43mg%
-citron	45mg%
-tomate fraiche	50mg%

SOURCE: MOH,DSME, Seminaire de Formation des Formateurs en SMI/PF/Nutrition, Ouagadougou, April 17-May 10, 1985.

B. FOOD CONSUMPTION

Men, women, and children eat separately. Mothers supervise the youngest children. Meals are communally prepared and consumed from a common pot. During the meal, bite-sized pieces of toh are torn from larger balls of toh in the calabashes and eaten with a variety of the separately prepared sauces.

If a morning meal is consumed, it typically consists of food remaining from the previous night's meal. Men are given priority to these foods.

In towns, coffee, tea, and bread are available in addition to cakes and doughnuts sold by vendors.

The dietary pattern differs regionally based on the principal ethnic groups living in the area and their system of subsistence. Subsistence type can shape the dietary pattern and potentially influence infant feeding practices (Pelto, 1981). The Peul or Fulani who live in the northern provinces of Burkina Faso (including Soum) are primarily pastoralists. Years of drought have altered traditional food use patterns, principally affecting the availability of cow's milk as a principal protein food in regions characterized by extensive pastoralism (Guggenheim et al., 1983). However, the Peul still consume more meat (sheep, goat, beef), milk, and other animal products than other ethnic groups in the southern non-pastoralists provinces. They also consume less toh and grains in general. Some reasons for this are less water and firewood available to cook grains, fewer vegetables available to make sauces, a preference for other foods, and fewer grains

available in some areas.

The dietary pattern also varies according to religious group. Pork consumption is noted particularly among the Animist population. Pork is never consumed by Moslems.

Refer to Appendix 1 for additional notes on food consumption in Burkina Faso.

IV. INFANT AND CHILD FEEDING

A. BREASTFEEDING

Breast milk provides the sole source of nutrition during the first year of life and usually until the child is old enough to walk (Guggenheim et al., 1983). In a 1982 study conducted in the Kongoussi region (Bam Province) in north central Burkina Faso the mean duration of breastfeeding was found to be 36 months with no difference in mean duration between boys and girls. Thirty-eight percent breastfed for 19 to 30 months; 42 percent breastfed for 43 months or longer (Vougelade, 1982).

The Survey on Infant Mortality in the Sahel (EMIS/Burkina, 1988) lends indirect support to these results. EMIS/Burkina results show that more than 98 percent of children at 12 months of age were breastfed and at twenty-four months of age 60 to 66 percent of the study infants were still breastfeeding.

The duration of breastfeeding in Burkina Faso is closely related to the natural spacing of births which is determined by infant survival. Trussel et al. (1987) interviewed 71 women in Bobo-Dioulasso (Houet Province) and found that breastfeeding does

reduce probability of conception and that amenorrheic women are much less likely to resume sexual relations. Women who have begun sexual relations, resumed their menses, or have become pregnant are more likely to stop breastfeeding. They perceive that their breast milk under these conditions will cause gastrointestinal upsets in the suckling infant.

The use of colostrum varies by ethnic group membership. Of the four ethnic groups investigated in the "Folk-Demography" study (1981) the Peul, Bwaba, and Lobi all were found to feed colostrum to their infants. Only the Gourmantche wait until the third or fourth day after birth (when they believe that the milk is "good") to start breastfeeding. Until this time they feed the infants only water.

B. INTRODUCTION OF COMPLEMENTARY FOODS

The EMIS/Burkina (1988) found that by two years of age complementary foods had been introduced to almost all children in the survey. Bouillie was generally introduced at approximately six months of age and solid foods at approximately nine months of age.

The 1980 Toece/Toudou food habit survey investigated the food consumption patterns of children six to 24 months of age (in Reeser, 1988, p.68). They identified the following dietary practices as potential contributing factors to the poor nutritional status of children in this age group (primarily wasting and deficiencies in vitamin A, iron, and ascorbic acid):

1. Children usually receive 1.5 to 2.5 meals per day which limits

their caloric intake.

2. Good quality protein food are introduced too late. Legumes are not fed to children less than 12 months of age and foods of animal origin are limited.
3. Children eat meals with the family from the age of 12 months. Several disadvantages were identified: poor nutrient balance, high carbohydrate intake, low meal frequency, and the need for the youngest children to compete for food.
4. Foods which are good sources of micronutrients such as fruits and vegetables are consumed infrequently.
5. Child food taboos, where practiced, include avoidance of eggs, fruit, fermented foods, and goat's milk.

Zeitlin's study of factors associated with weaning food use in Yako (Passore Province) and Koupela (Kouritenga Province) provides the following information on child feeding practices.

"...Nutritional status (wt/age) was negatively correlated with age of introducing supplementary foods (late introduction, poorer status, wasting). However, length/age correlated negatively with the number of times a <u>bouillie</u> is served after cooking (more meals, poorer status, stunting). Theories proposed to explain this second observation included: (a) keeping <u>bouillie</u> for several hours in tropical heat and the resulting microbial contamination may have adverse affects on health, which in turn will affect growth, or (b) more

frequent bouillie feeding, displacing breast milk and resulting in stunting due to lower protein quality and higher phytate content.

It was also found...that the average nutritional status of infants did not improve if their mothers had a source of cash income. The reason for this was thought to be related to constraints on mother's time. Mother's cash income activities were found to delay the introduction of solid foods, decrease the number of times bouillie was cooked per day, reduce the likelihood that the infant ate bouillie the day before, increased the number of times bouillie was served to the child after it was cooked, and reduced the probability that it was stored in a covered container.

On the other hand, women with more personal fields were found to spend less time gathering fuel and were more likely to have fed bouillie to the child the day before, less likely to have served the bouillie several times after cooking it, and they mentioned more ingredients added to the bouillie. These factors were not associated with significant improvements in children's nutritional status, perhaps due to lack of cash income to buy protein enrichment for the bouillie.

Other factors that were negatively correlated with nutritional status were distance from water source, the number of family meals, and the number of wives. However,

help with fetching water was associated with better nutritional status and greater use of bouillie....

The more family meals that were cooked per day, the more bouillie was cooked. This could be because the beginning stage of preparing toh involves making... bouillie, some of which is transferred to another container and fed to the baby.... This bouillie would be nutritionally inferior unless the mixture was cooked further with protein enrichment ingredients.

Sex differences were noted in nutritional status (wt/age) and weaning patterns...Supplementary foods tended to be offered earlier and more often to girls, and girls had significantly higher wt/age and length/age."

C. WEANING PRACTICES

Weaning practices consist of a series of acts designed to sever the child from the mother as abruptly as possible by administering a deliberately traumatic shock. This is a widespread cultural pattern analogous to other rites de passage commonly practiced in Africa which abruptly and painfully mark the initiation of children into adulthood.

The types of shock vary and can be used alone or in combination. Some include the use of a bad tasting salve on the breast, a dose of hot water with or without the addition of boiled herbs administered while holding the child's nose, and leaving the child with the grandmother or another woman in the household

(Guggenheim et al, 1983).

V. SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS FOR FOLLOW-UP ETHNOGRAPHIC RESEARCH

Key findings of this report include:

1. The duration of breastfeeding varies from approximately 19 months to over 43 months. The average duration is probably between 24 and 36 months. The use of colostrum varies and appears to depend on ethnicity of mother.
2. The introduction of non-breast milk foods usually starts by six months of age. A dilute millet porridge (bouillie) is introduced first. Solid foods are given at approximately nine months of age. Good quality protein foods such as legumes are not fed to children until they are 12 months of age. In some areas, girls are offered supplementary foods earlier and more frequently than boys.
3. Children are usually fed approximately two meals per day which limits their caloric and nutrient intake.
4. Principal intervening factors which affect a variety of behaviors related to infant and child feeding include ethnic group membership, religion, marriage pattern, size of household, and sex of child.

The following areas for ethnographic research are suggested to supplement and enhance the currently available information on infant and child feeding practices in Burkina Faso presented in

this report.

1. Infant and child feeding practices of the Mossi people in Burkina Faso.
2. Description of the sociocultural environment in the Houet, Soum, and Passore provinces.
3. Subsistence systems of the ethnic groups residing in Houet, Soum, and Passore provinces (e.g. pastoralists, intermediate cultivators, hunter/gatherers).
4. Indigenous food classification systems.
5. Criteria for identifying time for breastfeeding and feeding of nonbreastmilk foods, i.e. how hunger is perceived in infants and older children; are children fed on demand?
6. Types of decisions to be made regarding feeding and individuals responsible for making the decisions.
7. Types of liquids fed to infants before the introduction of bouillie or other weaning foods, reasons for using them and frequency of feeding them to children.
8. Weaning foods other than bouillie commonly prepared and fed to infants - method of preparation and administration to child.
9. Intrahousehold pattern of food distribution particularly in polygynous households.
10. Mothers' knowledge about infant and child feeding and nutrition especially regarding frequency of feeding and "good" foods to feed.
11. Dietary practices related to infant and child feeding during

periods of illness, especially diarrhea.

12. More detailed description of the factors which affect household food preparation, e.g. female labor, household size and composition, availability of fuel and water, food reserves.

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SOURCE: Reeser, 1986.

APPENDIX 1

MISC. NOTES ON FOOD CONSUMPTION IN BURKINA FASO

Voaga

In season: December
Petals of the flower of Kapok plant

Wild
dried, pounded, prepared in sauce for toh.

Kennebdo

In season: during rains. Limited duration.
dark green leaves, cultivated in gardens

Sesame Seeds

Grow wild as well as cultivated
Found in N + NW Sourou, Tougan, Jibasso
Pounded into paste and added to sauce like peanut butter

Wild berries, e.g. "jujube", "raisins sauvages"

Seasonal; found in the north.
are dried + pounded and made into balls

Pintade - guinea fowl
domesticated and wild types
found more in the north
the eggs are plentiful in markets in June

Insects - some are eaten, e.g. termites, grasshoppers
found more in the south

Animal offal (abats)

e.g. intestines, liver, heart, brains, etc.
Intestines often eaten.
Generally consumed. Low cost a contributing factor

Meat

Sheep and goat often consumed more than beef, as beef is more valuable, higher price, and people prefer to hold onto their cows for their milk. Exception: times of drought.

Meat intake greater in north than in south, among pastoral tribes.
Frequently consumed diced, pounded.

Fish

Two kinds of dried fish are principally consumed - salted and dried (Sahel region), salted and smoked (Zone du fleuve or Soulou region). It is pounded into powder before cooking. Fresh sweet water fish are also consumed. Principal species are carp and catfish.

Potash

Prepared at the household level by burning grain stalks, collecting, rinsing and drying the ashed. Also sold in the market place as crystals. Added to toh in Western region and Bobo area. Reduces keeping quality of prepared tohto only 2 days or so. Imparts desired taste, color.

Tamarind

Used instead of potassium salts in tohin the Mossi plateau region. (Also substituted for lemon). Prolongs conservation of tohto 3 to 5 days and even longer by increasing acidity. Imparts desired taste and color.

Wild green leaves, e.g.

"feuilles de cuillettes"

A great variety are to be found

Ninuphar (water lily)

The bulbs are collected in season from ponds where the flower blooms; dried and stored for later consumption; pounded into powder and mixed with wild leaves, boiled, strained through charcoal to remove bitter taste, then eaten with oil and grain. Consumed in region north of gorom gorom.

Rabbit

Plentiful in some areas. Government encourages consumption but intake is low.

Tea

Very sweet green Chinese tea is frequently consumed.

Intake is high among northern pastoral tribes - Fulani, Toureg, Bela, and Songhai.

Even among the poor it is in high social demand, and there is often preferential spending for tea and sugar over other items, e.g., Cash crops may be traded for these.

Northern Provinces

Less consumption of toh and grains in general. Grains provide proportionally fewer calories in the northern diet than in other areas. Contributing factors are: less water and less firewood available to cook grains; fewer vegetables available to make sauces; preference for other foods; fewer grains available in some areas. Higher consumption of meat and milk and other animal products.

Preference for rice and fonio over millet and sorghum, when available. (Ease of preparation is a big factor.) Higher availability of fonio than other regions.

MIXED DISHES

"Tom-tom" or foura-farine de mil, l'eau, ou lait beurre de karité, sugar or salt.
"Gonre"-farine, feuilles de haricot, beurre de karite, sel.
"Poulet rabile"- chicken in yeast sauce

Other Meats

Pork is eaten in some areas, (although not by Moslems). Consumption of pork is noted particularly in the animist population.

In the village of Saba, 7 km outside Ouagadougou, a variety of lesser used meats are found on the market, notably dog, donkey, and horse.

Game is available in the southern part of the country although all but the small rodents require a hunting permit.

MSG

Mono Sodium Glutamate is available on the market, imported from China and Brazil. It is a flavor enhancer and preservative which has been associated with health problem such as "Chinese Restaurant Syndrome", a condition which occurs in some people after eating oriental food prepared with MSG. It's symptoms include flushing, heart palpitations, stiffness or tightness in the neck and shoulders, and headache. Although widely found in processed foods in developing countries, MSG poses a health risk to users which at present escapes the law. In Burkina Faso, the extent of use, and the effects of use, are not known. There was a case reported in Niger where MSG was confused with caustic soda; people thought a powder was MSG, added it to food, and it resulted in several deaths. The Nutrition Service has attempted to generate awareness of the importance of respecting the dose, and has recommended that the product be sold only in small packets, and that it be labelled.