PRELIMINARY REPORT

TRADITIONAL MATERNAL AND CHILD HEALTH CARE AND RELATED PROBLEMS IN THE SAHEL

A BIBLIOGRAPHIC STUDY

by

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"Science sans conscience ne fait que ruine de l'âme"

Rabelais

(Science without conscience can but destroy the soul.)

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INTRODUCTION

A foreign consultant in a Sahelian country reported several years ago that one of that country's officials began their meeting with a five-minute dispirited monologue on the fact that "what the country does not need is any more reports." After even a quick glance at the bibliography presented at the end of this presentation, it is not difficult to sympathize with the Sahelian government official. It will be noted that one of the largest sections deals with health strategies and recommendations, while the research on the most basic solutions to the health and nutritional problems of the Sahel does not compare in length or emphasis.

On the other hand, statistics on most of the Third World are beginning to acquire some significance, precisely because of the numerous investigations, reports and recommendations undertaken on these countries. Indeed, statistics are the most sobering facts that highlight the problems of the Third World. From the Sahelian countries, these statistics are still limited and are often transferred from one report to another. It may thus appear almost redundant to repeat again some of this information here. Yet, it is through the emphatic and persistent repetition of these statistics that the drama of the rural peoples of the Sahel, their hardships, incredible courage and sacrifice, the sufferings of the women, and the agonizing circumstances of their children, can be better felt and understood.

This preliminary report does not aim at emotionality but it does wish to highlight immediately the following premise in regard to the Sahel's health problems:

1) medical research must be directed to the most immediate and simplest medical solutions;

2) rural development must be more simply and more effectively implemented, with a greater awareness and sensitivity to the people's immediate needs and to the meaning of the repercussions of change on their social as well as emotional lives;

3) medical and nutritional problems of the rural (if not also urban) populations have long been flagrantly obvious.

Is it necessary to wait any longer for sophisticated, expensive and repetitious proposals to support the already known facts? The following data are but brief examples:

> One out of two children survive to the age of five in Niger.[1/]
>
> In relation to the adult population in the Sahel, children aged 0 to 19 years old are:
>
> 52% in Chad
> 56% in Niger
> 58% in Mali
> 50% in Mauritania[2/]

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[1] Belloncle and Fournier, 1975, p. 65.

[2] UNICEF, Enfance, jeunesse, femmes et plans de développement, etc., 1972, p. 10.

Four out of seven Sahelian countries are listed by the U.N. as among the world's least developed nations: Chad, Mali, Niger and Upper Volta.[3]

In Mauritania, the GNP was $300 in 1976, and it had:

1 doctor for 100,000 inhabitants
1 midwife for 150,000 inhabitants
1 nurse for 50,000 inhabitants
1 national hospital
4 secondary hospitals
20 MCH centers
50 "dispensaires"
18 mobile teams [4]

In Chad, the entire health personnel is said to total 52 for a population of 4,000,000 (1975 census).[5]

In 1971, Chad had one MCHC center (PMI centre) at Chagoua (a suburb of D'jamena) created in 1969 with the help of WHO and UNICEF.[6]

In 1971, Mauritania had 40 doctors (four of whom were Mauritanian); and ten midwives (two of whom were Mauritanian).[7]

In 1973, Niger had:

98 doctors (16 of whom were Nigeriens and 50 of total located in Niamey!)

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[3] U.N. Office of Public Information, June 18, 1974.

[4] WHO, Conférence Atelier sur les soins de Santé Primaire, Niamey, January, 1977.

[5] Ibid.

[6] UNICEF--République du Tchad, Enfance, jeunesse et Plan de Développement, Fort Lamy, 1971, p. 26.

[7] UNICEF, Mauritanie--Group de Travail, p. 25, 1971. This report noted, however, that 33 of the doctors were Chinese and that during that time, 100% of all births were covered in Guidimaka by the Chinese team. An incredible record indeed!

44 midwives (21 of whom were in Niamey)
7 hospitals with 1,310 beds (90% of them in Niamey and Zinder)
110 health centers in the 'bush', i.e., one for every 40,000 inhabitants.[8]

On the basis of the existing reports, an attempt at a preliminary list of diseases affecting women and children particularly, has been made, with no emphasis placed on any one in particular. They are each to be considered of major importance: measles, smallpox, chickenpox, yellow fever, tetanus, trypanosomiasis, treponematosis, gonorrhea, kwashiokor, marasmus, onchocerciasis, bilharziasis, cerbo-spinal meningitis, malaria, viral hepatitis, tuberculosis, trachoma, leprosy, dystocia, niphropathy, intestinal parasitis.

Professor Ki-Zerbo, at the Lomé Conference of 1974 on African Traditional Medicine and Pharmacopoeia, cited a Bambara proverb which said: "Djougou tè mogo la, bana kélen ko," that is, "Man has no other enemy but sickness."[9] For as long as universal memory can recall, man has fought this deadly enemy not only through scientific research and an accumulation of experience, locally and internationally. He has also couched the explanations for sickness in mystical and supernatural rituals. While, generally speaking, physical illness can be diagnosed on the spot, attitudes towards sickness and health are far more complex. This is precisely why so many health and sanitation programs have failed.

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[8] Belloncle and Fournier, 1975, p. 27.

[9] Colloque du CAMES sur la Médecine Traditionnelle, etc. Lomé, 1974, p. 11.

On the one hand, the urgency and extent of immediate therapy or treatment have made tremendous demands on a doctor's or a nurse's time. On the other hand, a lack of patience, on the part of all levels of health personnel, to explain to the indigenous or uninitiated patient, or to listen to the traditional cures, is sadly prevalent. This is a common complaint in the West as well.

Partially, the burden of responsibility for the present situation lies not only with the Western and Westernized doctors and other Western-trained health personnel and medical researchers, but with the anthropologists as well. Both professions have neglected and ignored each other for a variety of reasons, e.g., medical research in Africa has been directed to Western journals and concentrated mainly on urban centers; anthropologists have shown a lack of concern with medical problems because of their golden rule of research, i.e., relativism and objective participation. In general, the anthropological literature abounds with details on birth rites, without ever indicating or judging the health repercussions of some gestures or traditions. On the other hand, the medical literature analyzes the clinical facts without explaining (except for rare cases) the values or harm of some traditional habits. The following bibliography exemplifies this gap in both anthropological and medical research.

Yet, in view of the overwhelming health needs of the Sahel, in no way can the value of recent (and not so recent) medical and anthropological research related to the Sahel, and Africa in general, be belittled. The bibliography, though incomplete, is a proof of this. The following list

of names from both professions, also incomplete, supports this: Adler, Aujoulat, Collomb, Dupin, Fournier, Imperato, Jelliffe, Kerharo, Koumaré, Omolulu, Poix, Retel-Laurentin, Sankalé, Satgé, Touré, Traoré, Zagre, Zempleni.

I. SOCIO-ECONOMIC CHANGE AND HEALTH

Though this bibliographic study centers on the rural problems of traditional health care in the Sahel, it must be presented within the context of the socio-economic and political problems of change and their relationship to health.

A. Of First Priority: The Drought

The long-term effects of the drought cannot be ignored. Although the socio-economic, health and ecological problems, and man's role in the desertification of his own land, all existed before the drought, it is obvious that the latter has exacerbated these problems. Its toll on the health of the children is yet to be measured.

Reams have been printed, supporting or criticizing national and international aid to the drought victims (Copans, Sheets and Morris, Fauck). Bibliographies on the drought in the Sahel are beginning to abound. However, it should be noted, the OECD's own bibliography on the Sahelian drought (see Joyce and Bendot, 1976) has no direct reference on the health of children and women. Observation of nomads willingly choosing to become sedentarized (Povey, 1974; Imperato, 1974; Greene, 1974) have quickly been made. Ten-week or 40-day visits "en brousse" by health observers have been organized during the drought (Greene; Epelboin). Yet, a specific mention of the long term psychological and health effects of the drought on the people, and a specific inclusion

of these considerations in national and international development plans are not reflected in the available literature or in the "Unrestricted" documents of international and national organisms. The medical and social concern is rare (Greene. 1974; Dussauze-Lugrand in Carnets de l'Enfance, no. 26, 1974, both in relation to Mauritania). One can only join Attilio Gaudio (Remarques Africaines, July 31, 1974, pp. 18-21) in reminding ourselves that the drought has not ended, that, indeed, it will last for another fifty years, that Lake Chad has been reduced to a third of its size, and that six million Africans have lived and are still living between life and death. Old civilizations are agonizing, and the health of the people has been further shattered.

At the risk of being repetitious, one can not overstress the importance of having national and international bodies study, research and include in their development plans long-term health effects of the drought.

B. Rural "Stability" v. Urban "Stress"

It is really not possible to view the future of rural areas as separate from urban situations. Lambo (1975, p. 272) contrasts the upbringing of the rural child with that of the urban child. He points out how traditional rural patterns help the child to forestall emotional disorders and to master the primary experiences with common affect-laden issues, while the urban and semi-urban children have high incidences of stress. He attributes this to the gradual erosion of traditions, and increased deculturation. Hughes and Hunter, 1970, discuss the close

interrelationship between sickness, poverty and development.

If the Sahel is considered to be 90% rural, the drought has set in motion a wave of migrations which is or will be irreversible in many places. Mauritania and Mali are cases in point. Settlements in unfamiliar settings have developed and attempts at the continuation of traditions have been prevalent. An extreme example of this is seen with the Tuareg in a Malian refugee camp, where they set up another camp at a distance from those of other ethnic groups, in an effort to maintain their own identity (Imperato, 1974). Disturbances in the child-parent relationships have already taken place (Dussauze-Lugrand, ibid.).

Self-identity and group identity can be sustained only through the continuation of traditional customs. Food, music, language and family cohesion are basic to traditional customs. The link between the village and the urban center or settlement is rarely broken. Visits and extended stays of the "urbanites" or migrants therefore affect a change, no matter how subtle, on the village. Standards set in the city become the criteria for the villagers' ideal, whether chosen or imposed.[10] A vicious cycle is created by the improvement in Health and Education in rural areas. Because of even their remote link with

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[10] This is in addition to the fact that all projects, programs, recommendations and funds come from the city. See Janine Blanc (1970, as referred to in Belloncle and Fournier, 1975, p. 38) in reference to the drastic differences that exist between modern and traditional economic and social standards in Africa as especially epitomized in the economics of the health sectors.

urban centers and those who have lived in them, education and better health will normally lead to greater aspirations in the youth. Their alienation to the village grows in relation to their frustrated hopes. Yet, these young people are much needed in rural areas. Here, a philosophical and human dilemma is posed to the African world: the rural youth, as well as urban youth, have the right to their aspirations acquired through exposure to travel, education and better health facilities. The problem becomes how to retain some of this rich potential in the Sahel's rural areas in spite of the increasing economic restrictions. How many Dr. Moustafa Siddats exist in the world (see Les Enfants du Monde, FISE/UNICEF, no. 35, 1975, a doctor in Boutilimit, Mauritania)?

The ideal stability of rural upbringing cannot help but be slowly shaken by the contraditions posed by even minimal change. Stress will be part of rural living, not only because of the repercussions of the drought and famine. Unless the aspirations of rural youth are met (i.e., teaching adapted to their environment; better agricultural equipment; better and more immediate health services), the stress Lambo identifies as being characteristic of urban child-rearing will also be a part of rural living. It will be an added factor to the already troubled health sector (see Idusogie, 1972 and Hughes and Hunter, 1970). Moreover, unless the problems and mistakes that have emanated from urban agglomerations are understood and resolved they will appear in time, in rural planning.

Undoubtedly, resistance to changing agricultural and food habits in rural areas, particularly among the seasoned elders, is a great hindrance to basic rural improvements. Yet, through patience and persistence, it is the young who are able to convince the older generations by demonstrating the effectiveness of their newly-acquired methods (see UNICEF Project in Mauritania, Enfance, jeunesse et Plan de Développement, 1971, p. 91-92. This important document also urges the essential participation of women in agricultural production; thus their specific inclusion in national development plans).

C. Political Implications of Health Improvement

The above discussion has implied the moral and political responsibilities of the city towards the village, by virtue of their interdependence. A similar relationship exists between the center and the periphery, to use the current and most fashionable international terminology. It should not be forgotten that the center's agricultural needs were often determining factors in changing the periphery's traditional network of agricultural production, thereby creating greater needs for traditional foods. Thus, in agricultural countries such as Senegal and Gambia, peanuts, strawberries and lettuce were planted, for export, to the detriment of the people. These foods have never been part of the traditional diet.[11] The relationship between the use of traditional land

[11] On the other hand, French bread could be considered part of the diet in Francophone Africa, not only in urban areas, but also in remote rural areas (as in Senegal). Yet, the question should be asked: what nutritional value has French bread brought to the already nutritionally unbalanced traditional diets of the Sahel?

for different agricultural needs and the increase of malnutrition and unbalanced diets were also exacerbated by the reliance on a cash economy. Rurals had to buy foods instead of planting them. The limited cash flow in rural areas led to this inability to buy food; thus, imbalance in nutrition to which a rapid population growth was added, became generalized (Idusogie, 1972, p. 18).

The health dependency of the peripheral countries on the central countries may be of long duration, but the present international collaboration is essential for a more comprehensive and conscientious problem-solving community. This change in the international and African policies (or in the central and peripheral relationships) was predicted by Sankalé in his book on Médecins et action sanitaire en Afrique Noire in 1969, when he concluded by saying (pp. 428-9):

> Que sera la situation sanitaire dans l'Afrique de demain? Nul ne peut le dire. Elle sera fonction de son contexte politique, social et économique. L'hygiène et la santé d'une nation sont de fidèles reflets de son degré de développement. Il semble seulement indiscutable que pendant plusieurs décennies encore, l'Afrique aura besoin, pour se développer, de la participation des autres continents.
>
> Sans doute faudra-t-il, pour maintenir celle-ci, réadapter les procédés d'assistance technique, reviser les méthodes de coopération internationale, prendre en considération la dignité mais aussi la susceptibilité d'autrui, faire fi d'intérêts économiques à court terme pour les uns, de thèses nationalistes étriquées pour les autres et harmoniser les rapports humains....
>
> What will be the health situation of the Africa of tomorrow? No one can say. It will be in function of

its political, social and economic context. The hygiene and health of a nation are faithful reflections of its level of development. What appears to be unquestionable is that Africa will need the participation of other continents in order to develop.

Undoubtedly for this participation to be sustained, the procedures for technical assistance will have to be readapted, the methods of international cooperation will have to be revised, the dignity as well as the sensitivity of others will have to be taken into consideration, the short-term economic interests of some, the narrow nationalistic theses of others taken into account and human relationships must be harmonized....

II. TRADITIONAL RURAL HEALTH PERTAINING TO WOMEN AND CHILDREN

[It should be stressed that this preliminary study is based on some of the available literature in Washington, D.C., New York, Paris and Geneva. It cannot be complete without visits to each of the Sahelian countries, as well as to the WHO regional office of Brazzaville, for only in these places can the detailed and raw data (thus, the most interesting) be consulted. Health ministries, rural dispensaries, traditional and non-traditional health personnel of all levels will hopefully be visited in the near future to give further meaning to this initial work.]

A. Sicknesses Which Most Affect Women and Children

Cases of pathological malformations among infants in the Sahel are rare. There are no documented medical cases of congenital cardio-pathologies, no cases of mongolism (Arnaldi, 1975, p. 420). Perhaps these malformed children die or are left to die very early. In any case, such incidents seem to be unknown in the published literature. Yet, there is little consolation from such a realization. Sahelian rural children are bombarded with sicknesses and diseases and the drought has most certainly added to their misery.

1. Malnutrition and Marasmus:

Because of malnutrition and undernourishment, many other sicknesses and diseases in the Sahel have become endemic and have acquired epidemic proportions. Yet, if infantile and maternal malnutrition in rural areas

is a common theme in the medical and socio-medical literature, it is also said to be the least effectively and most inefficiently diagnosed of diseases. This is especially prevalent in "bush dispensaries" where ignorance and difficulties in diagnosing nutritional diseases are common, not only on the part of the population, but also the "infirmiers" (nurses) (see Belloncle and Fournier, p. 49-50; Nutrition and Infection, WHO, 1965, p. 22). Indeed, Omolulu writes that "maternal undernourishment is the rule rather than the exception in Africa" (1974, p. 331). An important correlation between malnutrition and ill-health is established in the current literature (Belloncle and Fournier; Blanc, 1975; Dupin, 1958; Jelliffe; Poix, 1973; Satgé et al, 1969; WHO documents; etc.)

In addition to the difficulty rural health personnel experience in diagnosing malnutrition, thus indirectly causing it to reach a level of serious proportions, traditional food habits and traditional weaning habits are said to be major causes.

a) Causes of Malnutrition and Marasmus

Traditional food habits are among the touchiest and most difficult topics to deal with. In all societies, food is the most stabilizing cultural identifier. Indeed, it expresses a way of life. Moral and ethical values, elements of prestige, religious taboos, sexual restrictions, supernatural powers and psychological attitudes are all linked to food. For example, a French housewife will be praised for the perfection of her roast, as it is pink and juicy. An Arab housewife,

presenting the same roast, would see shock on the faces of her guests and would be accused of being a bad cook! Traditional dietary habits must therefore be approached with great care, especially in rural areas, even if they are known to be of harm to the individual. As Burgess and Dean note (1962), the transition between the magical to the scientific, from the taboo to the permissible, is a slow one. We could also add that the transition from one taste to another can be even more difficult to overcome.

In general, it is often noted that traditional African diets provide an excellent and well-rounded nutritional regime (Hughes and Hunter; Menes; UNICEF-Tchad, 1971, etc.), yet it is the various culturally-based restrictions (that vary from place to place and from group to group) which help create a state of malnutrition. These restrictions are complex and thus not well documented. The Kotoko have numerous food prohibitions relating not only to sex and age, but also to the various professions (Lebeuf, 1976). The Dogon have an equally complex dietary system linked to their social and religious life; the children have their own foods and taboos and each family has its own set of taboos. When a visitor comes to eat, he is always asked what he cannot eat (Dieterlen and Calame-Griaule, 1960). Among the Badyaranke of Senegal, women and uncircumcised boys cannot eat pigeons for if they do, the woman will not have milk for her baby and the boy's scar of circumcision will not heal (Simmons, 1972).

It is not possible at this point to present a synthesis on common aspects of food prohibitions in the Sahel in spite of their importance.

One common taboo is the prohibition of eating eggs. The Badyaranke women of age to have children do not eat eggs because "one does not eat the children of others to feed one's own children" (Simmons, p. 410) while among the Djerma of Niger it is believed that eggs either make you dumb or make you steal (Poix, 1973). Indeed, an "Opération Coqs de Race" (Operation Pure-bred Hens) was attempted in Maradi, Niger, to encourage, among other things, the eating of boiled eggs by children (see V. Barrès et al, 1975, in which reasons why the Operation was not successful is discussed, p. 41: lack of understanding of traditional practices and insensitivity to the needs of the population).

Weaning habits are said to be another cause for infant malnutrition and indeed, the medical term for this nutritional state is the Ga word linked to weaning, kwashiorkor, meaning the displaced child (whose breastfeeding has been neglected because of another pregnancy).

Little is available in the medical and anthropological literature in relation to breastfeeding and weaning in the Sahel or elsewhere in Africa, for that matter (see Mondot-Bernard, 1975, p. 24). Yet a controversy seems to have arisen already in relation to the way it occurs. On the one hand, it is said to be abrupt and "traumatic" (ex., UNICEF-Mauritania, 1971; Belloncle and Fournier; Poix) and on the other hand it is considered to be gradual (ex., Mondot-Bernard, 1975; Niehoff and Meister, 1972; Thompson and Rahman, 1967), with porridges and liquids or meat already chewed by the mother, given to the baby. In all cases, however, it is agreed that it is during the time of weaning that marasmus

or malnutrition begins to develop in the child, between the ages of 6 to 36 months, depending on the region. It therefore seems more apparent that it is what the child is fed, i.e., adult foods difficult for digestion at that age, rather than how or when weaning takes place.

A third factor which causes or adds to problems of malnutrition in young people in rural areas is one which is hardly ever mentioned: the neglect of feeding school children in rural schools. Omolulu thus points out (1974, p. 336):

> One of the important causes of the high failure and dropout rate is the lack of attention to the nutrition of the children. In rural areas, the child has to walk the distance (of 3 or more miles often) to school. This may take an hour and he therefore leaves home by 7 am. Since breakfast is not usually prepared at home, he gets to school hungry. He is then made to sit down to lessons till 11 am or later, when he gets to a break to buy food!

Not only is the economic burden greater on the family but the risk of bad nourishment threatens the youth again, after having survived the most stringent years of malnutrition--between 1 year old and 5 years old.

But added to these socio-economic and cultural factors is another obvious reason: general lack of food exacerbated by the drought. It is traditional throughout Africa for the lion's share to go to the men who are served before women and children (Satgé et al, 1969), and during periods of food shortages, the latter usually suffer the most.

Thus Sankalé writes, without sparing the elders (1969, p. 107):

> Insister auprès de l'autochtone sur les besoins de la femme et de l'enfant en Afrique n'est pas superflu car il s'agit là d'une notion révolutionnaire. La tradition donnait une telle priorité à l'homme! L'enfant tient

> bien une place de choix, il est "gâté", mais cette place est d'ordre sentimental; ses besoins réels sont méconnus.... Faire admettre aux adultes et surtout aux vieux du village que la femme et l'enfant ont des priorités sur eux, notamment dans les domaines alimentaires et sanitaires, c'est vraiment renverser un ordre séculairement établi.

> It is not superfluous to insist upon the needs of the woman and child in Africa for it is indeed a revolutionary notion. Tradition gave such priorities to the man! Indeed, the child has a choice place, he is "spoiled", but this place is of a sentimental nature. His real needs remain unknown.... To have adults, and particularly elders of the village, admit that the woman and child have priorities over them, and especially in matters of food and health, would truly be upsetting an order secularly-established.

(b) Consequence of Malnutrition and Marasmus

The various forms of proteo-caloric deficiencies which result from the above-mentioned causes of malnutrition (ignorance of nutritional value in local foods; taboos; weaning dietary habits; unfed school children; lack of food) have great debilitating effects on the child. The correlation between malnourishment and malnutrition and slow mental development (if not also permanent damage) is now medically established (Bailey, 1974; Brock and Autret; Dupin, 1958 and 1973; Dupin et Raimbault, 1972; Mondot-Bernard, 1976; etc.). The socio-economic and cultural implications of such a permanent and prevalent state of health are immeasurable. One immediate and little discussed example is the effect of a child with kwashiorkor on the family and, in particular, on the mother (see Omolulu; Dupin). The psychic behavior of the child is

reflected by growing apathy, and finally the complete incapacity to react. This creates a great strain on the mother who, in spite of her concern and care, sees no response in her child and gradually loses interest in him or her, as the child appears to lose interest in the mother. It is noted that the success in the treatment of kwashiorkor, apart from the medical care, relies heavily on the restoration of the mother-child relationship (Omolulu, pp. 334-335). The consequences of malnutrition on family cohesion, on the psychological stability of the mother undergoing stress, and on its implications of socio-economic deprivations are serious hurdles to overcome for rural development. Without the essential group cohesion and interest in the community that emanate from a healthy state of being (thus a desire towards betterment), participation in rural planning will not be possible.

2. Diseases Due to Malnutrition - A few examples.

It is commonly believed that because of malnourishment, measles --benign in other parts of the world--has become a deadly disease in Africa (Blanc, 1975; Caldwell; Imperato, 1975; UNICEF-Mauritania, 1971; etc.). The common habit of diminishing the intake of the child's food during that illness makes it impossible for the child to sustain any resistance to the disease without the needed protein. Yet, it is also believed that the measles of Africa are of a different type from that in the West and that they are indeed of a more deadly type (Interview, Dr. S. Kessler). No doubt further medical research in the matter is of undeniable importance.

Meningitis is also reported to be increased by malnutrition (Rey, 1975) and is most prevalent in the Sahel and Savannah regions. Eighty percent of the cases occur in children before the age of 2, and 10 to 40% of the population of Black Africa are said to have the principal genetic factor essential to meningitis, "drepanocytosis". Yet it appears that it is the socio-economic factor--the lack of a balanced diet--which is the essential cause.

In addition to numerous cases of illnesses related to the lack of vitamins, anemia is one of the more serious and more prevalent sicknesses among both women and children in all the Sahelian populations. May notes (1969, p. 31) that very young children in Senegal have as low as 50 to 60% of the normal hemoglobin levels. The effect of anemia in the pregnant woman and the lactating mother are of serious consequence to her health and that of the baby. Her lack of milk will create a vicious cycle of early malnutrition for the child. It will also affect her pregnancy as well as endanger her delivery due to her greater weakness (see Barbotin et al.; Bour in Carnets de l'Enfance, no. 35, 1976; WHO Technical Report no. 580, Control of nutritional anaemia with special reference to iron-deficiency (IAEA/USAID/WHO) 1975).

It should be mentioned briefly that another common nutritional misconception which causes infant mortality relates to diarrhea. The traditional treatment of diarrhea appears to be general to the Sahel: the belief that liquid should not be given to the sick (child or adult), causing severe dehydration (Arnaldi, 1975).

B. For A Better Rural Nutrition

In view of the present and long-term agricultural difficulties in the Sahel--a situation which will deter any rapid and urgently needed nutritional rehabilitation--the first thing that comes to mind for an immediate remedy to the problem is: the need for more food now!

But the international community has also learned that not just any kind of food will alleviate the needs of the poor or even the starving. An understanding of food habits and food taboos is a sine qua non in any international as well as any national planning. Moreover, an interrelationship between health education and agriculture, whose effects would have enduring significance, should be implicitly included in such plans (Idriss et al; Williams and Jelliffe). Anthropological and medical data should be gathered locally so that some of the numerous health strategies could be put to better use. Additionally, data such as the following must be considered: it is said that 70% of Blacks are intolerant to lactose and that that intolerance appears a few months after weaning (lactose intolerance is 5 to 15% in Europe, Afrique Médicale, 121, 1974, p. 610); industrially-milled rice eaten by migrant workers from Basse-Casamance in Dakar has contributed to the sharp increase of beriberi, a disease to which these same people were previously immune because they ate home-pounded rice in which enough thiamine protected them from the disease (May, 1968, p. 32, citing study by Payet et al in Soc. Méd. d'Afrique Noire de Langue

Française, Janv. 1960).

Many studies and strategies on nutritional rehabilitation exist, some of which are disease specific while others are general (see Bibliography). It would be difficult to synthesize here the invaluable recommendations that emanate from all available materials. Yet, a common thread appears throughout: the rare success and numerous failures of many strategies and recommendations, even in relation to the ten-year experience of IRAM in Niger. One could conclude as has the UNDP report (DP/88, Nov. 1974, para. 103, p. 28) that,

> It must, in the final analysis, be borne in mind that any project, however well-planned from a technical and human-environment point of view, will be successful only to the extent that governments promptly adopt the necessary internal policy decisions even though such decisions sometimes involve difficult choices, such as priority in the allocation of resources.

Yet, is this the only consideration?

Another question should be asked and better documented: Why do such failures outweigh the rare cases of success in rural nutritional and health strategies? A brief analysis, based on the available documentation will here be attempted:

1. Children are not considered a priority in national and rural development even though it is well substantiated now that the greatest rate of infant mortality is due to malnutrition between the ages of 1 and 5. In 1969, Satgé et al warned that (p. 7):

> Il s'agit là d'un fait fondamental.... L'essentiel des efforts ne doit pas porter comme en Europe sur la première année; toute évolution de l'éfficacité de

> nos thérapeutiques, toute estimation démographique qui ne tiendrait pas compte du cap redoutable de la deuxième année et de la mortalité de 1 à 4 ans de son ensemble entraînerait des conclusions parfaitement fausses.

> We are dealing here with a fundamental fact.... The bulk of efforts should not concentrate, as it is done in Europe, on the first year; any evolution in the efficiency of our therapies, any demographic estimates, that do not take into consideration the redoubtable hurdle of the second year and the rate of mortality between the ages of 1 and 4 will only lead to perfectly false conclusions.

In 1972, in a joint CIE-WHO report, Dupin and Raimbault also emphasized the importance of a nutritional education that would have, as a priority, better feeding of children between the ages of 5 months to 3 years (p. 28). The same is insisted upon by UNICEF (Le jeune enfant, etc., 1974) which deplores the lack of services for children. Yet children are the surest and most important of investments in the realm of human resources.

2. Experiments, such as the famous "bouillie de sevrage" attempted so persistently in Niger, (Belloncle and Fournier; IRAM, etc) have failed because:

a. the most important ingredients were lacking: PATIENCE and PERSEVERENCE. It is regrettable that the procedure suggested by Satgé et al (1969, p. 12) is not seen more often in the various experiments:

> De plus, pour être entendue, l'éducation nutritionnelle doit être expliquée patiemment. Pour qu'une nouvelle habitude alimentaire s'installe, il faut aider la mere

à préparer le nouveau plat, souvent attendre que l'enfant l'ait absorbé; enfin, revenir plusieurs fois pour constater que le conseil est toujours suivi.

Moreover, to be heard better, nutritional education must be explained patiently. In order to instill a new nutritional habit, one must help the mother to prepare the new meal, often wait until the child has eaten it; finally, come back several times to check on whether the advice is still followed.

The limitation of health personnel in rural areas makes it difficult for the rare person or two to maintain the control suggested above. Yet, by concentrating on two or three desperate cases of malnutrition, by pursuing close supervision on a limited number of mothers and their families, the children will survive through better nutrition that will be based on the local foods. We join Satgé et al in asking: What more success and what better publicity for the health worker? It should be recognized that people will seldom reject change (see case of agricultural change through persuasion in UNICEF-Mauritanie, 1971) if this change is proven to be effective and of benefit to their children, wives or husbands and to the community's future.

b. Lack of simplicity is another element in the failures of many nutritional projects. For example, the realities of limited cooking utensils in a rural home, making it difficult to prepare a special meal for the small children, are not taken into consideration. It is not to be expected that a woman will set aside or buy an extra cooking pot, no matter how cheap, for the baby's (or babies') special food. On the

contrary, it should be expected that such experiments might include the free distribution of the small pots necessary for preparation of the baby's food, if not also the wood!

Women's cooking burdens are heavy and long. Not only does the actual preparation of the evening meal take four or five hours daily (see, as ex., Riesman, 1974, p. 72) but it is also the woman's responsibility to gather the wood for cooking (see Carnets de l'Enfance, no. 36, 1976 on "Alleviating women's burdens" and UNICEF, Lomé Conference of 1972 on Children, Youth) etc. in which 8 African countries, of which 4 are from the Sahel--Chad, Mali, Mauritania, Niger--stated that in "most" rural regions of Africa, "women are overworked").[12] Wood is therefore precious. Thus, because of the priority placed on the men's meals in the traditional family and because carrying more wood is adding to the woman's burdens, the baby's meal will not be cooked unless more wood and more time are known to be available.

c. Education on nutritional value of local foods is usually

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[12] Urban dwellers, visitors, and particularly men, should no more be deluded by the openness and expression of happiness with which village women graciously welcome visitors and conclude that village women have "plenty of help" and "are happier than those in the city" (Interview, Dr. Ibrahim Sow). In this day and age, whether one is male or female, educated or not, it is difficult to sympathize with such opinions. Though 'old-fashioned', such an attitude unfortunately still prevails. To note UNICEF's comment in Le jeune enfant, etc., 1974, para. 56, p. 26: "Les faits observés viennent à l'encontre de l'image de la 'joyeuse paysanne courageuse.'" [Observed facts contradict the image of the 'courageous, joyful peasant girl'.]

directed to women and mothers (Bailey; Poix, UNICEF-Tchad). The Lomé Conference stated that it is not enough to educate women but "qu'il faut une prise de conscience collective" (a collective awareness is essential). In fact, this is too ambitious. A more immediate goal is to reach the member of the family most difficult to convince--the husband! Several documents support the fact that women are far more accepting of change than men (IRAM and UNICEF documents) and the experience of numerous rural and urban men and women is enough to support this social reality.

d. Consideration of local taste in preparation of food is lacking (IRAM interview). Tastes are not only culturally-defined but the first influence on the baby's taste is what the mother feeds him/her. And a mother will never feed her baby what she herself will not accept, whether she is European, African or Asian.

In addition to the above suggestions, only one further suggestion can be made here. The Lomé Conference suggested the manufacture of locally-made or industrially-made enriched foods. It is suggested here that the first step is to begin encouraging the making of a locally-manufactured enriched food which would have an immediate effect on the community. Indeed, villagers would participate in its making. It could be a community project designed for young women (15 to 20 or 25 years old) who would be in charge of the cooking and distribution, thus, involving youth in an economic and community project. If a school exists in the village, it could well be a school project.

Moreover, it is within the traditional structure for young women to learn to participate in cooking early in life.

The other part of the Lomé Conference's recommendation is that the food be distributed to sick children or sold in the market at a very low price. Thus depending on the economic level of the village, and the number of inhabitants, this suggestion should be included in the community project and the villagers should decide the best way to distribute food daily. Depending on the family's economic levels, contributions could be made, exchange in kind established or the food distributed freely to the needy and sick children.

In summary, then, for a better education in rural nutrition of the mother and child: 1) children must be a priority in national planning; 2) perseverence, patience and simplicity are essential in the "bouillie de sevrage"; 3) husbands must be taught along with their wives; 4) local tastes must be considered through a preliminary investigation of food preferences and taboos; 5) a locally-manufactured food supplement should be developed, with villagers participating in the preparation, distribution and pricing.

III. TRADITIONAL CARE AND CHILDBIRTH IN THE SAHEL

Black woman, woman of Africa, O my
mother, I am thinking of you...

O Daman, O my mother, you who bore me
upon your back, you who gave me
suck, you who watched over my
first faltering steps, you who
were first to open my eyes to
the wonders of the earth, I am
thinking of you...

Woman of the fields, woman of the
rivers, woman of great river
banks, O you my mother, I am
thinking of you...

From "L'Enfant Noir" by Camara Laye
Librarie Plon, 1954

The image of the mother in modern African literature as well as in traditional oral literature often projects affection and consideration. She is remembered with deep love and appreciation. Yet, traditional tales also depict the mother as a "devouring," voracious and vicious person (see the recent book by Denise Paulme, La Mère Dévorante, Anthropos, 1976) especially in the character of the mother-in-law!

The contradictions of traditions are many. They are particularly complex in relation to the woman, the symbol of fertility as well as the cause of sterility. The traditional care attributed to the mother reflects this contradiction. It is known and admitted by everyone in

the village that:

> ...it is the mother who tills the soil for food while her husband cultivates the cash crops.... It is the mother who cooks the food and needs to know what will benefit her people and what will leave an invisible hunger gap, the hunger of the tissues. It is the mother who alone can fight the taboos that deprive so many children of fish, fowl or eggs, and it is she who, to a large extent influences the birth rate (May, 1968, p. xi).

The mother does all that and more. Indeed, Piault, in a description of an hour-by-hour day of the Mawri woman in Niger, writes (1973, p. 15):

> En Afrique, la femme travaille presque continuellement alternant travaux des champs et travaux ménagers, artisanat et soins aux enfants. Sa vie est complétement inclue dans son travail: c'est en pilant ou en puisant l'eau qu'elle échange quelques commérages avec les autres femmes de la concession. La différence est grande avec les hommes qui travaillent aux champs puis s'asseyent à l'ombre pour parler et se reposer. Cette différence entre le rhythm des activités masculines et féminines explique en grande partie qu'il soit difficile de trouver des femmes prêtes à bavarder pendant de longues heures; elles sont toujours actives et en dehors du filage du coton qui les laisse relativement disponibles, leurs autres activités ne permettent guère la flânerie ou la détente physique.

> The woman in Africa works almost continuously alternating between work in the fields and housework, handicraft and the care of children. Her life is entirely involved in her work: it is while pounding or while drawing the water that she exchanges some gossip with the other women of the compound. The difference is great with the men who work in the fields, then sit in the shade to converse and rest. This difference in rhythm between the masculine and feminine activities explains, in great part, why it is difficult to find a woman willing to chat for long hours at a time; they are always active and besides the spinning of cotton, an activity which makes them relatively

> accessible, their other activities do not allow them either loitering or relaxation.

Thus, the traditional structure in most Sahelian countries (if not in all of North and Subsaharan Africa) has not given the wife and mother her due share in the total acknowledgement of her efforts. It is not surprising to those who lived in rural Africa to note that a 35-year old woman looks as if she were really 60 years old or more. None can deny that all have their share in suffering in the Sahel--men, women, and children. But traditional health care and conditions have not fully alleviated the burdens of the African woman, particularly in regard to pregnancy and childbirth.

A. Pregnancy and Birth

1. Sterility

A sterile woman in all traditional (and not so traditional) societies throughout the world is deeply touched by her own physical state. Each society views such a woman in different ways and deals with the 'calamity' through various cathartic methods. It is invariably a personal as well as a social drama "La stérilité arrache à l'homme d'Afrique les prières probablement les plus poignantes et les plus belles que l'on a recuillies..." (Erny, Afr. doc., 1969, p. 59: "Sterility extorts from the man of Africa the most poignant and most beautiful of prayers most probably ever collected").

Incidences of sterility vary from society to society. The condition invariably determines very early the destiny of the woman

because she is expected to marry early and procreate soon after. It is usually the woman who is considered to be the source of sterility, but exceptions do exist where the man may be 'accused' instead (Erny, Afr. doc., 1969). In some societies a form of traditional adoption from within the family is permitted the sterile woman, who is thus integrated into and not rejected by her family (ex., women of Dakar by Le Cour Grandmaison, 1972). On the other hand, Cartry is noted to have seen many couples without children among the Gourmantche of Upper Volta, and the woman is not repudiated (Erny, 1969, p. 50). In most other societies, however, sterility, like sickness, is a destabilizing element to the group. It is a threat. Such cases are therefore: (a) an accepted cause for repudiation; (b) not given any sympathy by men or women, as they are indeed feared as sorceresses or despised; and (c) looked down upon as the woman herself becomes a social nuisance because of her jealousy of the happiness and richness of other women (see Erny, Afr. doc., 1969; Diarra, 1971).

The first criterion of richness is often the number of children a man and woman have. Thus, a sterile couple, or more precisely, a sterile woman's life is marginal, and humiliated. She has been frustrated in her greatest pride: that of giving life. Erny (1969, p. 50) cites a Mossi saying from Calame-Griaule, "A sterile woman is not a woman."

Nicolas (1967) has described the rites of the Bori, a religious and therapeutic society of women. One of the most frequent reasons for which women join the rite is sterility. The sterile woman is rejected

by her community but finds a different socio-religious acceptance in being part of the Bori rites. Little is documented on the traditional beliefs. The suspected causes of sterility are linked with the very essence of the person, evil or good. Yet, sterility is common (Erny, 1969; Luneau; Retel-Laurentin, 1973) among many peoples and some traditional cures are said to have effective results, but again it appears that these only take into consideration the woman and not the man (Erny, Afr. doc., 1969, p. 60; Traoré).

In spite of the long-known social stigma of sterility, medical research in Africa deals only rarely with the problem. One of the rare examples of documentation and research is the work of Dr. Retel-Laurentin in the Cameroon and Upper Volta (1973, 1974) in which a relationship between wide-spread sterility and low fertility is linked to three forms of venereal disease of which syphillis and gonorrhea are the most serious. The urgency to pursue the treatment of these diseases is great, not only because of the risk of continuous contamination of other people but also because of the effect this may have on the newborn babies.

2. Traditions Linked to Pregnancy and Birth

(a) Pregnancy

In relation to the Sahel, well-documented detailed published descriptions of traditions linked to pregnancy and to the actual birth of the baby are rare (see Bibliography, Section III: references to note: Adler, in relation to twin births; of particular interest:

Animation Féminine, Niamey; Clarkson-Goulet; Erny; Poix; Rouch; Touré; and also of particular interest: Zagre; see also Arnaldi, Section V and Luneau, Section II). Undeniably, a great deal of material exists in both rural and urban health centers in the Sahel. It is there that the first step in the systematic accumulation of data for research on such traditions should begin. However, accumulation of data on traditions is not enough. It is the physical effect of these traditions, step by step, which should also be evaluated. This is where the collaboration of both anthropologist and doctor is invaluable. Even more valuable would be the combined qualities of both professions in one person: a doctor with an anthropological outlook. The goal is to make a clear-cut list, ideally according to each community, of traditional practices which are not harmful and those which are definitely harmful. In general, anthropological material describes plain practices with no evaluations, on the premise that a people's traditions are not to be questioned. Medical practice, on the other hand, most often deals with details on the premise that all traditions related to health practices are to be questioned.

At this point of the available research, it is difficult to generalize or go into details concerning beliefs and traditions linked to pregnancy and birth. Differences indeed do exist. The pregnant Zerma woman in Upper Volta (Zagre, 1977), for example, must be very conscious of her body hygiene: she must be clean, take care of her breasts, take medicinal baths so as to make her feel light (though the

types of herbs used are not indicated in the document) and help her body remain supple. She must also work hard so that her birth delivery is easy; yet, when the time of delivery is close, she must rest and avoid hard work. All things that the pregnant woman desires are given to her because her desires are considered the child's own desires. This is seen as a way of insuring an easy delivery to protect the foetus from undue emotions which may lead to an abortion. Food taboos, however, limit these desires and she is not to eat honey, yogurt, 'koba' meat, etc.

On the other hand, in Zinder, Niger (Animation féminine, Niamey) the woman can eat whatever she desires except bitter foods (leaves of 'Madoko' tree; 'filasko', etc.) and sweets which, it is believed, may lead to complications during the delivery period. She continues with her normal work load until the end of her pregnancy. Arnaldi specifically notes that among the Peul Wodaabe of Niger the pregnant woman has stringent food taboos which prevent her from eating essential foods such as milk, goat meat, and sweets. Instead, she is given a daily porridge of ashes of millet stalks (Arnaldi, p. 416) which causes a high rate of anemia.

Two trends appear in the literature in relation to obvious medical repercussions on the woman during her pregnancy due to traditional habits. They are: (1) nutritional deficiencies of essential foods leading to malnutrition; and (2) hard physical work which may cause difficult deliveries, an abnormal foetal position (Touré, 1975,

p. 35) and maternal fatigue, a reason for high mortality among women (ORT-Niger, 1972-74).

The fasting of the pregnant Sahelian woman is a point for further research. Most of the Sahelian peoples are Muslim and fasting is one of the important rites of Islam. Yet, true Islamic recommendations of tremendous importance are most often forgotten when it comes to the cultural and social adaptations of the Koran. Among them are the beliefs that you must take care of your body in all aspects, hygienically and nutritionally; that a pregnant woman is allowed not to fast; and that a sick person should not fast because it is presumed that it would harm his health. It should be established that the state of health, particularly of the rural Sahelian woman, is not 'normal'. It has been reported that she has severe anemia and malnutrition, and she is allowed to work hard during Ramadan (as cooking is particularly demanding during these times). A woman whose body is not in a normal state (such as during menstruation) is not allowed to fast.

The question should therefore be: is it the act of fasting that is harmful to the pregnant and lactating mother or is it her state of malnutrition that is the source of the danger? Such a question must be objectively researched, both medically and nutritionally in order to develop a more conclusive evaluation of the effect of fasting. A tradition common to most religions (among the Navajos as well as the Christians and Jews), fasting is of particular moral and religious significance.

(b) Birth

Difficult births are not infrequent in Africa. Indeed, from a glance at the material, the popular belief of the easy delivery of peasant women is shattered and one even wonders how such a misconception ever developed. It may well be explained, however, by the fact that, characteristically, throughout Africa, is the attitude that pain must be controlled. Rites of particular difficulty exist in all the societies to teach boys and girls to control pain. Consequently, a woman giving birth to her baby 'controls' her pain as much as she can. Additionally, most anthropological work (and medical work) was done by Western researchers who believed that the lack of audible expression of pain meant that it did not exist. Moreover, as it has already been pointed out, anthropologists have often described the tradition but not its consequence. We rarely, if ever, are told, in an anthropological monograph, of the pain involved in circumcision or of the consequences of tetanus due to malpractice, for example.

Traditionally, the difficulties of delivery are often linked to a social disorder: a harm has been done to imbalance social and family relationships. During the delivery, if it proves difficult, the woman must confess her guilt of alleged adultery, betrayal, harm to a co-wife, to her children, to a friend, etc. (see Retel-Laurentin, 1974, extensive documentation on these practices and traditions in Africa in general).

Indeed, delivery of the baby among the Zerma (Zagre, pp. 28-29) is expected to be difficult, to the extent that the tradition considers the woman in labor between life and death, between fire and water.

The family makes sacrifices to the dead to ward off her death. In fact, a tomb is prepared for the woman while she is in labor.

However, there are definite medical reasons which can explain these painful deliveries, though not much research appears to have been done on this particular point. Dr. Hacques, practicing in the Maradi region in Niger in 1968, noted that dystocia or difficult pregnancies are very common due to the bone malformations of mothers from the time of youth and adolescence. It is not explained, however, why or how such malformations occurred though they result in uterine ruptures, vesico-vaginal fissures and belated evacuations of the woman. Moreover, other causes for difficult delivery are nephropathy (a kidney ailment) and gravidus (a consequence of pregnancy) which have dramatic consequences, but with rest and a better diet, the woman does recover (in Belloncle and Fournier, pp. 50-51).

On the other hand, Touré (1975) accuses the old matrones of further exhausting the woman during delivery by forcing her to make unnecessary efforts causing her to have 'uterine inertia'. By bombarding her with questions, they also create a further dimension to her emotional and physical exhaustion.

Rarely does the literature discuss what treatment is given to the woman in difficult labor. Although traditional cures do seem to occur their actual therapeutic value is not clear (Traoré; Animation Féminine, Niamey).

Better medical explanations related to difficult pregnancies and

births would help solve this dramatic social conflict so common to most of Africa, while also investigating more deeply the traditional cures used in such situations. In only one case in the following Bibliography is the problem of the imposition of the Western method of giving birth (woman lying on her back) discussed (Piault, p. 78). The traditional method in most of the Sahel is that of the woman crouching or kneeling on the ground. Surely such a transition would be difficult for the woman to accept immediately. Imposed on the woman who gives birth in a rural dispensary is a creaking, generally uncomfortable, bed on which she must lie down for the first time in her life (in most cases, the hygienic condition of this bed is far worse than the ground which is especially cleaned when the woman traditionally gives birth). Indeed, the questions to be asked are: a) is such an imposition necessary? b) does it not create an initial fear in the woman and her family making them hesitant to come to the dispensary? c) if, for thousands of years, women throughout Africa have been giving birth in that manner, could it not be medically possible to allow such women to continue such a practice? This is the logistics problem of the adaptation of modern medical training to traditional methods (see Afr. Méd., 144, 1976, p. 657: on why the European method should be kept to a minimum). Yet, it is equally important to facilitate the initial acceptance of maternal dispensaries in which interest is usually "particularly difficult to stimulate" (ORT, Niger, 72-74; Poix, 1973; Jelliffe and Bennett, p. 42; UNICEF-Tchad, 1972, p. 42;

Afrique Médicale, 124, 1974, p. 963; and many more).

(c) The Cord and the Placenta

Erny explains the socio-religious distinctions made between the cord and the placenta in Africa: the placenta, because it is buried, belongs to the earth, and is female; the cord, often preserved, is celestial and air-like, and is considered male (Erny, Psychopat. Afr., 1969). This may be a generalization; yet it is an expression of the complex system of symbolisms that exists in almost every African society and which determines, in fact, the way in which they dispose of the cord and placenta.

Among the Dogon, the placenta is said to be linked to blood, therefore fertility. But as it also rots easily, it is linked to death. The men, fearing this rotting, never touch the placenta, yet because of its link to fertility, the woman places it in an earthenware jar and buries it with the intent that it is to refertilize the earth (Erny, ibid.). It is usually the midwife or a woman relative who buries the placenta soon after birth. But among the Zerma of Niger (Zagre) and the Bedik of Senegal (Clarkson-Goulet) it is the husband or men of the family who bury the placenta. It is notable also that it is not just anywhere that a placenta is buried. Each society has its specifications which relate to their symbolic system of beliefs (Clarkson-Goulet: The Bedik bury the placenta on the right of the hut if it is a boy, and on the left if it is a girl). This is a point of great importance in considering the adaptation of rural dispensaries to traditional

needs, rather than the other way around.[13]

The cutting of the umbilical cord is traditionally done in different manners. The Zerma (Zagre) cut it with a razor and treat the umbilical wound with a black powder (we are not told what it is or what its therapeutic value is) or with a heated piece of coal. The baby is then immediately washed in hot water in which plants had been soaking (the benefits of these plants are not explained either, unfortunately). The baby is rubbed with earth after this. Zagre also indicates (p. 30) that among the Samo of Upper Volta the newborn baby is held by the legs, with his head down, and is gently moved back and forth. The head and nose are then shaped to appear thin. It is after that that the baby is washed also in hot water.

In Niger, Arnaldi (p. 418) indicates that before cutting the cord with a stalk of millet or a razor-blade, the traditional midwife reads verses from the Koran, then does the initial gesture of cutting the cord twice if it is a boy or three times if it is a girl. The umbilical cord is not tied but cauterized with the hot blade of a knife on which ashes are sprinkled. Then the matrone washes the infant in water

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[13] Jelliffe and Bennett (1972, p. 42) support this by pointing out that hospitals and medical units in rural Africa do not fit the psychological and social context of their environment. They do not take into consideration, for example, the needs of the mother to have her baby with her: "The biologically unrealistic separation of mother and newborn so characteristic of Western hospitals must be avoided.... Almost no hospital in Africa provides the psychological treatment for traditional parents.... This aspect of parental reassurance is an integral part of traditional practice; it is doubly important, although much more difficult to achieve, in cross-cultural doctor-patient relationships."

in which plants have been soaking for three days.

On the other hand, Clarkson-Goulet indicates (p. 399) that any woman in the village with experience can help in the delivery of the baby, and that she ties the cord before cutting it with a knife.

It is not the way in which the umbilical cord is cut that is a problem of great concern nor what it is cut with, but rather what is placed on the umbilical wound which is the cause of tetanus, a primary cause of infant mortality in the Sahel; indeed, in the Third World as a whole (Bourgeade and Kadio). The problem is one of overwhelming dimensions and in April 1975 an International Conference on Tetanus was held in Dakar (Rey et al, 1975: see detailed study on tetanus).

Retel-Laurentin (1975) indicates that tetanus is the biggest cause of infant mortality among the Bobo-Oulé because of the dangerous habit of rubbing the umbilical cord with earth. She notes that the disease is, in fact, diagnosed correctly by the villagers but does not indicate any traditional medical cure used. Sanokho and Senghor (1975) give the causes of tetanus of the umbilical cord as being due to unhygienic conditions in rural Senegal: i.e., the woman giving birth in a section of the bathroom-toilet; the wound being covered with sand, powder from a piece of coal or from a burnt cork, or simply covered with a leaf.

Not everything placed on the umbilical cord causes tetanus however, and some societies may have therapeutic leaves or another method which has therapeutic value (see De Lourdes Verderesse and

Turnbull, 1976, p. 217, in which unharmful traditional habits are listed). Before discarding all methods, these should be studied in the context of each environment. Yet, undeniably, because of the documented high rate of mortality due to tetanus it should be the first priority to consider in any rural health strategy.

UNICEF (Le jeune enfant, etc. 1974, p. 19) has stressed the importance of immunizing all pregnant women against tetanus as a way of protecting the infant at birth, and suggests the organization of mobile units which would go on regular rounds in areas with no health dispensaries. It is indeed one of the first preventive and immediate steps to take in all the Sahel. Another major concern is the problem of the training of the matrones, a problem of long duration, with many socio-economic implications.

B. The "Matrone" or the Traditional Midwife

Before making a critical appraisal of the surgical techniques of African midwives and healers, it should be stated that a distinction must be made between an established technique based on experience, on the one hand, and malpractice and charlatanism, on the other hand. In the West, this distinction exists in the most sophisticated of medical circles. Indeed, a whole branch of legal practice has been enriched in the U.S.A. because of the numerous cases of medical malpractice. On this premise, therefore, it should be pointed out that if tetanus exists in cases of circumcision and excision, it is due to the unhealthy methods used rather than in the tradition itself.

It is interesting to note that the first idea of setting up rural maternities was contributed by a traditional midwife in Senegal, (Fall, p. 20), a matrone whose home had become similar to a maternity ward! In spite of the great rural awareness apparent in Senegal, there were only 10 rural maternities in the entire country in 1971 (Fall, p. 21) and only five of these were functioning.

Most matrones in Africa are old women who have had their menopause, with experience in birth delivery and with the general condition of pregnancy. Either their choice and role are structuralized within the society, or it is an unstructured choice; i.e., by virtue of her skill, she becomes the most popular. Attitudes toward the matrones in the medical profession vary from the attentive (Fall) to the expression of complete exasperation (Touré). Without any idealism concerning the role of the matrone, Sankalé writes (1969, p. 158): "le rôle qu'elles s'attribuent est de discerner les cas où tout se passe bien...." (the role which they attribute to themselves is that of discerning the case where all is safe....)!

It is not possible for any one strategy or suggestion to cover the entire Sahel. Not only every country, but every ethnic group within every country will react differently according to their own level of acculturation, their traditional habits and the cultural attitudes toward change.

Numerous studies, strategies and experiments have been done in relation to the specific problems of the training of the matrone

(Animation Féminine, Niamey, 1975; Belloncle and Fournier, 1975; Fall; Poix; Touré; UNICEF; WHO...), and none seems to support the idea of the old matrone. Three trends appear to predominate: 1) training young girls, beginning with the age of 18 (Touré); 2) training women between the ages of 35-45 (Fall); and 3) re-training old women while also giving her a younger assistant whom she would train, and who would also be separately trained (Belloncle and Fournier). All three strategies have supporting arguments but one point is essential: the importance of training (young or otherwise) in the details regarding the traditions is essential. Belloncle and Fournier noted (p. 162-164) that because such teachings relative to the religious actions linked to the delivery were ignored by the trained matrones, the pregnant women of the villages investigated stopped coming to the maternal dispensaries altogether.

Fall also points out (p. 25) that unless there is a simultaneous education of the community along with that of the matrones, the rural maternities will not be at all successful. In spite of the "spectacular" results obtained at Khombole, Senegal, that is the 35% decrease in the rate of infant mortality from 70%, Fall is not optimistic because of the difficult necessity in maintaining supervision of the health personnel.

Another common problem raised in the literature which is invariably humiliating to the villagers is the attitude of the health personnel and not toward the newly-trained matrone vis à vis the community. The training

of all health personnel and in particular the matrones who deal so closely and intimately with the life and thoughts of women should take into consideration the psychological implications of their presence in the community.

It is suggested that the final decision regarding the training of the matrones be: 1) decided with the community itself; 2) that women between 35 and 45 be trained from within the community, thus problems of language and tradition would not arise; 3) that the excellent documents of WHO (De Lourdes Verderesse and Turnbull, The Traditional Birth Attendant, etc., 1975; and The Primary Health Worker, Flahault, coordinator, 1976) be studied and adapted for each community.

C. Breastfeeding and Spacing

One of the most valuable of African traditional customs linked with both health (psychological and physical) and nutrition is breastfeeding. And yet it is the one custom (along with that of the traditional knowledge of traditional medicine, see Bibliography Section VIII) that has been the most damaged by acculturation, if not by deculturation. Advertising made for the milk companies must bear a great burden of the responsibility of this damage which has reached alarming proportions in urban centers and whose effect on rural areas is not to be minimized. Indeed, Dupin and Raimbault (1972, p. 26) speak of an outrageous scandal ("un véritable scandale") and feel that hospitals and health dispensaries must bear their share of the responsibility, as well, for allowing such publicity within their premises.

Besides the psychological effects of breastfeeding on both mother and child[14] (a habit which the West is now beginning to appreciate and deplore having lost), the health benefits are invaluable. Reported health benefits arising from breastfeeding include: a deterrent to breast cancer (Omolulu, 1974, p. 486), a natural immunization to the child and a protection against other unhygienic methods of feeding (Berenberg and Masse, 1975), a complete form of nutrition for the infant (Hertaing and Courtjoie), and a natural method of child spacing. But it must be pointed out that prolonged breastfeeding (varying from 6 months to 26 months or more, depending on the society) can create extreme anemia in the mother whose initial ferrous insufficiency is great (Omolulu; see Afrique Médicale, 18, 1974, pp. 271-274 on treatment).

A tentative correlation is being made between lactating women not menstruating and "natural" contraception (Rasa, 1976; Van Balen and Ntabounwura, 1975), but evidence is not yet conclusive. Rasa also noted however that 5% of the women who did not have their period did become pregnant.

But sexual abstinence after delivery and lasting till the weaning of the child is often the most common traditional form of child spacing,

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[14] On the psychological aspects of breastfeeding, Jelliffe and Bennett (p. 28) write: "An African mother in traditional circumstances is very much at one with her baby, sensitive to his signals and satisfying his needs almost before he is aware of them.... He is never isolated from human contact.... It is this physical stimulation and social interaction which probably accounts for some of the postnatal developmental precosity noted in some African infants."

though the custom varies from society to society and from household to household (Retel-Laurentin, 1975). There is a vague belief reported in the literature on traditional medicines used for contraceptive purposes but Retel-Laurentin (1975) denies their effectiveness and insists that temporary infertility is rather due to pathological conditions, e.g., miscarriages, involuntary abortions and disease.

In her investigation among the Zerma of Niger, Diarra (1971, pp. 166-168) noted that though the women considered having children a form of felicity, of richness, 47% of those interviewed did feel that two years should separate births and 39% agreed upon a spacing of three years.

Polygamous marriages accomplish spacing more successfully than others because of the convenience of total abstinence ... on the part of the woman, of course! It is a misconception to believe that it is a form of traditional spacing for it does not space the man's children though it does space those belonging to the wife!

In an ironic note, Afrique Médicale, 124, 1974, p. 975, ends its issue with tongue in cheek:

> La moitié des hommes mariés, vivant à Dakar, sont polygames; pour cent hommes mariés il y a cent soixante six épouses...et combien de disputes!

> Half of the married men living in Dakar are polygamous; for every hundred married men there are one hundred and sixty-six wives...and how many quarrels!

IV. CONCLUSIONS

Summary of Points Raised in This Paper

1. Anthropology and Medicine must unite. Research, combined or separate should: (a) be directed to the immediate needs of the Sahel (90% of which is rural); (b) lead to simplified solutions in preventive medicine within the means available; (c) always keep in mind personal responsibility and concern, and the natural attributes of both professions.

2. A socio-economic and medical consideration of the long-term health effects of the drought must be a first priority in the region, and included in national and international development plans.

3. The interrelationships between rural and urban areas cannot be excluded from any resolutions related to the improvement of health in rural areas. Because of increased deculturation and misadapted educational systems, one of the problems in rural areas is the frustrated aspirations of rural youth. This can and does have serious repercussions on rural health and the stability of youth. Rural planning adapted to rural conditions should avoid problems created in both urban health and educational planning. Only through trained youth, with a purpose, will resistance to change in rural areas decrease.

4. The agricultural needs of the "center" imposed on the "periphery" has had detrimental nutritional repercussions on the traditional

populations. Today's health dependency of the "periphery" on the "center" implies mutual moral and political responsibilities, as well as conscientious collaboration, when planning health programs.

5. Malnutrition and marasmus are said to be the causes of many diseases in the rural Sahel, even though in the Sahel there are the necessary ingredients (milk, plants, meats, vegetables) for a balanced diet. The reasons for this malnutrition are essentially: (a) ignorance of populations, and rural 'infirmiers', who are unable to diagnose the disease and are unaware of the nutritional value of local foods; (b) food habits - taboos; (c) weaning dietary habits; (d) neglect of feeding school children at schools; (e) general lack of food--which affects mainly children and women. There is a correlation between ill-health and malnutrition established in the medical literature.

6. The effects of malnutrition are debilitating to the mental and physical growth of the child. Moreover, the psychological effects on the family are very damaging and consequently affect community cohesion and communal interest in rural development projects.

7. As a consequence of malnutrition, measles and meningitis are among the many diseases which cause infant mortality. There is a growing belief, however, that the type of measles in Africa is of a more deadly type than in the West. Anemia, caused by malnourishment, is very prevalent among children and women, and is of great harm to pregnant women and lactating mothers. A misconception of nutritional needs in relation to diarrhea also leads to infant mortality.

8. For a better rural nutrition, the following are essential: (a) more immediate food; (b) food habits and taboos must be understood in national and international development planning. Such planning should implicitly acknowledge the interrelationship between health, education and agricultural improvement; (c) medical research and data must be accumulated on reactions of certain foods on different peoples.

9. In spite of numerous health and nutritional projects and strategies, the failures are numerous; the reasons for failure are rarely analyzed. Reasons for such failures are suggested and should be included in measures of preventive medicine: (a) children are not included as a first priority in national and rural development; (b) experiments (such as the famous "bouillie de sevrage" of Niger) have failed because of a lack of patience and perseverence and a lack of simplicity; (c) education on the nutritional value of food should be taught not only to women but also to their husbands; (d) local taste is not taken into consideration.

10. In support of a UNICEF recommendation (Lomé Conference of 1972), with a specific modification, the following is important: food for babies should be locally-manufactured and included in a community or school project for young girls and women (ages 15-20 or 25). Young girls are taught to participate in cooking very early in life and this would not be in opposition to a traditional custom.

11. Sterility is a personal and social calamity. Documentation on the understanding of traditional beliefs is usually general. The physical causes known to exist in the various societies are not well documented.

Traditional preventive cures against sterility seem to be practiced. Modern medical research in relation to sterility is also undocumented, though a high rate of sterility and low births in many areas is said to be due to various forms of venereal disease. The urgent need for further research, both anthropological and medical, is called for to affect immediate preventive measures.

12. Traditions linked to the period of pregnancy in the Sahel are not systematically documented. Though similarities exist, differences from region to region are obvious and may affect the details of health strategies. Two trends of concern appear in the literature: (a) food taboos in relation to the pregnant woman, increase her state of anemia and malnutrition, and (b) hard work may be a cause of difficult deliveries and abnormal foetal positions. The need for detailed, systematic and objective medico-anthropological research, which evaluates the good and bad repercussions of traditional habits during pregnancy, is indicated. Differences and similarities in various ethnic groups should also be established.

13. A specific question should be scientifically researched: Is fasting during Ramadan actually harmful to the pregnant and lactating woman? Or does it simply worsen her state of malnutrition which is the root of the problem? It should be clearly highlighted in all projects of nutritional education that one of the important recommendations of the Koran says: Take care of your body.

14. Difficult birth deliveries are common and are traditionally

attributed to wrongdoing by one of the parents. Traditionally, the conflict must be solved by the admittance of guilt during delivery, most often by the woman in labor. There are medical reasons, however, which explain the difficulties. More medical research should be undertaken to explain the reasons for such a widespread problem. This would also aim at solving the dramatic social conflicts that emanate from such situations.

15. The African medical practice in rural Sahel must consider the advantages of allowing women to give birth in the traditional kneeling or crouched position, if complications are not expected, instead of imposing the Western model of giving birth horizontally, usually on unhygienic and uncomfortable steel beds. The medical implications should be further researched.

16. The way the cord and the placenta are disposed of is linked to the symbolism attached to them in each society. The traditions are varied, but one common trend exists: the high rate of infant mortality due to tetanus of the umbilical cord. Two trends explain the causes of tetanus: (a) unhygienic instruments with which the cord is cut, or (b) what is placed on the cord is the cause of tetanus. It is suggested that in addition to solving the problems related to the traditional midwife, campaigns for regular immunization of pregnant women should be a first priority, as recommended by UNICEF (1974).

17. Medical malpractice exists in traditional Africa, as it does in the sophisticated medical centers of the West, due to carelessness, mistraining, charlatanism and ignorance.

18. The matrone plays an important socio-religious role in most societies; one must have had menopause to become a matrone. The training of such women poses as many problems as training younger women. Each community must find its own solution. It is suggested that women between 35 and 45 be trained first, and the valuable WHO documents be adapted to each environment.

19. Breastfeeding has multiple psychological, nutritional, and health values to both child and mother and must be encouraged in both rural and urban areas. A setback, however, is the increasing anemia of the lactating mothers. Preventive measures are essential for the protection of both mother and child.

20. A correlation is being made in medical research between prolonged breastfeeding and temporary infertility, though the data is not conclusive. The consideration of the customary abstinence usually of long duration following birth is the most natural way for child spacing, although this practice seems to be decreasing.

21. Polygamy does not help in spacing the children belonging to the man!

Perhaps the most difficult assessment in this analysis is the degree to which China's experience is applicable to other developing countries. It is often said that because China's social, economic, political and cultural circumstances differ so markedly from those of other countries, there is little in the Chinese experience that can be directly transferred. While this may be true--and Chinese representatives have themselves frequently stated that each country must find solutions to its problems based on its own special circumstances--there are basic principles that may indeed be relevant to other societies. These include the emphasis on local self-reliance, on brief training and structured part-time use of locally recruited and locally trained people, on the combination of modern and traditional medicine, and on preventive medicine. Perhaps even more important--if difficult to implement--are the beliefs that fundamental changes in health and health care may require fundamental changes in the social structure in which they are embedded, that equitable distribution of resources must be a basic goal of society, and that the opportunity to be of service should be a prime motivating force in health work as in other human services. But surely the greatest lesson China offers is that it can be done--that a nation can within one generation move from a starving, sickness-riddled, illiterate, elitist semi-feudal society to a vigorous, healthy, productive, highly literate, mass participation society. If China can accomplish it, other nations can too.

(V. Djukanovic and E. P. Mach, eds., Alternative Approaches to Meeting Basic Health Needs in Developing Countries, A joint UNICEF/WHO study, Geneva, 1975).

BIBLIOGRAPHY

ANNOTATED BIBLIOGRAPHY

The Organization of the Bibliography

1. Except where indicated by brackets and in rare cases, every item cited in the first twelve sections of the bibliography has been consulted. Section XIII has been added, even though references have not been consulted, because of their obvious direct interest to the present topic.

2. Because of the interrelatedness of the material presented, many references can fit within several categories. The aspects considered to be the most important have been the criteria for classification, though, undeniably, depending on the reader's own interest, differences of opinion may arise as to which would be the best category.

3. Method of annotation: An attempt has been made to bring out points particularly relevant to problems relating to the mother and child rather than to summarize the contents of each reference.

4. It must be stressed that in no way can this be considered a conclusive and final bibliography on traditional Maternal and Child Health care in the Sahel. Because of the limitation of time, much has certainly been missed and much more remains to be seen and studied. Moreover, this is a one-sided look at the literature. The most important and most essential is yet to be researched in the Sahelian libraries, documents, health records and on the spot investigations in the various villages throughout the region. For:

5. In spite of the over two hundred references cited, the overwhelming feeling that remains is that the most dramatic problems of health in relation to the mother and her children, in relation to the family as a whole, have barely been touched upon. Much repetition exists, many recommendations exist, but the immediate solutions to the most basic problems are yet to be found.

6. This Bibliography has centered mainly on five types of material: 1) anthropological and sociological; 2) nutritional; 3) public health; 4) generally untechnical medical discussions; and 5) reports by governmental and international organisms. The research for this material was undertaken in the following libraries where the greatest assistance and help have always been unfailing and without which it would have been impossible to gather the following material in the 45 days spent in library research. I am deeply grateful to the personnel of all these libraries: 1) The Library of Congress, Washington, D.C.; 2) SDP-AID offices; 3) United Nations Library, New York; 4) Centre d'analyses et de recherches documentaires en Afrique Noire (CARDAN-CNRS), Paris; 5) Institut de Recherches Appliquées et de Méthodes de Développement (IRAM), Paris; 6) Centre International de l'Enfance (CIE), Paris; 7) W.H.O., Geneva. I have also met and spoken, often very lengthily, with the following researchers, doctors and officials, and I would like to take this opportunity to thank them all for meeting me always so graciously and so promptly, and on such short notice: Dr. Pascal Imperato, Health Commissioner of New York

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N.B. For the sake of convenience, the following French terms have been also used in the English text and annotations:

Accoucheuse:	Traditional Birth Attendant
Matrone:	Traditional Midwife
Sage Femme:	Midwife
Infirmier:	Male Nurse

I. NUTRITION AND MALNUTRITION--MAINLY IN RELATION TO MOTHER AND CHILD

Bailey, K. V. "Malnutrition in the African Region," in WHO Chronicle, 29, 9, 1975, pp. 354-364.

Statistical data on hospital figures provided. Major nutritional problems. Protein-energy and nutrition (PEM) deficiency in energy-producing foods for adults and added to the deficiency in children is lack of consumption of protein-containing food. Usually combination of malnutrition and infection. Anemias, vitamin A deficiency, riboflavin deficiency, pellagra, and endemic goiter are main nutritional disorders. Usually no nationwide surveys are available. Urgency: assessment of nutritional problems, develop nutritional education and other remedial measures suited to conditions of each zone, after a thorough ecological study is made.

_____. "Nutrition et santé de la famille," in Afrique Médicale, 120, Mai 1974, p. 457-8.

Point of interest: malnutrition does not only have a direct physical effect on children but does irreparable damage to mental development of children. Importance to educate parents on nutritional value of resources often unused in region.

Blanc, J. Malnutrition et sous-développement. Grenoble, 1975.

Situation of nutrition in West Africa. General study of studies made on Africa. Link of malnutrition with level of development and political evolution. Correlation between malnutrition and ill-health which especially hits children of less than 5 years old and results in numerous syndromes; link of malnutrition and spreading endemic diseases. Intestinal parasiticism due to hygienic conditions of water, habitat and clothing. Malaria hits at all seasons, most particularly children of two to three years old.

Brock, Dr. J. F. and Autret, Dr. M. Kwashiorkor in Africa, WHO, Geneva, 1952.

Basic book on evaluation and treatment of Africa's greatest problem, malnutrition.

Dieterlen, G. et Calame-Griaule, C. "L'alimentation dogon," (Mali) in Cahiers d'Etudes Africains, I, 3, 1960, pp.46-89.

A detailed study of the food habits of the Dogon people. Provides information on the kinds of foods consumed, food preparation, infant feeding, socio-cultural aspects of food (extreme minutiae of details with which Dogon compose their diet; food and cooking linked to women and to fertility).

Dupin, H. Etudes des carences protidiques observées chez l'enfant en pays tropical (kwashiorkor). Librarie Arnette, Paris, 1958.

Detailed and medical description of kwashiorkor and its treatment; discussion of literature to date. Though book dates since 1958, information and analysis are still valid and important; has extensive bibliography. Point of interest: psychological behavior of infant with kwashiorkor and effect on mother. Important repercussions on treatment: "The child seems to desire only one thing: that he be left to die in peace," (p. 27) and by quoting Clark, Dupin adds: "When a smile can be obtained from a child with kwashiorkor, it means that he is on the road to recovery." 85% of kwashiorkor cases are due to weaning methods and hit children between one and three years old.

_____, ed. "Nutrition humaine et développement économique et social," in Tiers-Monde, no. 63, Juillet-Sep. 1975, pp. 459-669.

Series of articles on social, economic, political, sanitary aspects of nutrition. General.

Dupin, H. et M. Nos aliments: Manuel à l'usage des éducateurs de l'Ouest Africain, avec illustrations. ORANA, Les Editions Sociales, Paris, 1966.

A useful book which furnishes important information, simply put (with drawings) on nutritional needs, value of local foods and the effort needed to develop nutritional resources in West Africa. To be used by schools, medical and agricultural centers. Of great interest. Also aims to teach young how to better produce and on need of improvement of three things: health of population, better way of life, better economic balance in country.

Dupin, H. et Masse, N. P. "Influence de l'alimentation sur le développement de l'enfant pendant les premiers mois de sa vie," in Afrique Médicale, 114, Nov. 1973, pp. 765-774.

On importance of correct nutrition on mental development of child during first days of life.

Dupin, H. et Raimbault, A. M. Epidémologie et prévention des troubles nutritionels chez l'enfant, CIE/OMS, 1972.

Topics dealt with: proteino-caloric malnutrition; traditional habits linked with food consumption and nutritional value (effects of particular harm to children and pregnant women); nutritional anemia; prevention of malnutrition (emphasis on use of local foods of nutritional value) and of rachitis (reasons why latter is rare in the Sahel); on "scandalous publicity" of industrial milk companies. Emphasis should be placed on improvement of infant nutrition (ages three to five months

until three years old). Stress on importance of health personnel trained in understanding local traditions and value of some local foods.

Epelboin, S. and A. "Quarante jours de médecine nomade chez les Touaregs du cercle de Menaka," (Mali) in Afrique Médicale, 139, 1976, pp. 247-252.

A forty-day health expedition among Tuaregs, giving very superficial outlook of health situation. Typical example of quick investigations frequently done in Sahel under difficult conditions. A list of diseases and ages most hit and indication of local treatment, but with no specific explanations. No malnutrition noted! Healthiest group: ages 11-20. No pregnant women seen "probably due to drought"!

FAO. Nutrition et Travail, Campagne contre la faim, Etude de base, no. 5, FAO, Rome, 1962.

For our interest: emphasis placed on relationship between mental health and nutrition.

Hertaing, R. de, and Courtjoie, J. "Proposition pour une éducation nutritionnelle," in Afrique Médicale, 144, Nov. 1976, pp. 675-6.

Emphasis to be placed on: 1) Prolonged breastfeeding; 2) preliminary investigation on food in region; 3) consideration of introduction of new cultures, such as soja, rich in protein, whenever possible; 4) method to evaluate nutritional state of child; 5) importance of a mass campaign of education in benefits of better nutrition at initial phase.

Holmes, A. C. Les auxiliaires visuels dans l'enseignement de la nutrition. Comment les préparer et les utiliser. FAO, Rome, 1968.

Though study does not deal with Africa directly, of interest for our purpose of health training: various ways of teaching better nutrition through visual methods, through telling of tales, acting skits, puppets and how to construct them, etc.

Jelliffe, D. B. Infant Nutrition in the Subtropics and Tropics. WHO, Monograph series no. 29, 1955 (reedited 1968).

Important book with practical and technical advice. Problems approached from point of view of traditions: "customs which appear strange and possibly unesthetic to the Western-trained pediatrician must be examined critically and without prejudice," (p. 123). Stresses importance of knowing local cooking and consideration of simplicity of tropical homes and limited cooking items. Breastfeeding habits.

Idusogie, E. O. Rapports entre les problèmes de population et les problèmes de santé nutritionnelles dans les communautés africaines. Accra, Joint Regional Commission FAO/OMS/OUA, 1972.

On overall problems due to malnutrition, to misplanned national education (discusses problem of education given to rural children), on socio-economic factors of demography; on food resources.

_____. Des siècles d'évolution dans les modèles de consommation alimentaire dans les communautés africaines. Publication technique no. 8, FAO/OMS/OUA, Accra, 1973.

At one point, violent reaction to nomadic way of life. Description of certain traditional aspects of diets which are of value to know in nutritional study of various groups.

"Influence de la culture traditionnelle dans la promotion alimentaire et nutritionnelle," in Afrique Médicale, 130, Mars 1975, pp. 469-472.

Though most examples are from Central Africa, general discussion of great interest: stresses importance of knowing food habits as well as level of prestige given to various foods; how food is prepared; ideas linked to sickness and their causes; links to religion, supernatural, or magic.

Lefèvre, M. P. C. Alimentations des populations africaines au Sud du Sahara. Centre de Documentation Economique et Sociale Africaine (CEDESA), Bruxelles, 1965.

A book which could be of tremendous use but not well organized and difficult to use for research.

Malachowski, S. "La promotion humaine et la lutte contre la malnutrition," in L'Enfant en Milieu Tropical, 90, 1973, pp. 13-21.

Summary of I.R.A.M. projects in Niger: problems and successes of strategy. Presentation of "Fiche Technique" (pp. 15-18) on feeding of infant and recipes of supplementary food (bouillie) with use of local ingredients (this is copied from IRAM project and is found in numerous other journals and books). Article points to problems of 'bouillie', least successful of projects, but emphasizes importance of teaching matrones of its value and hope their influence (matrones') will be effective in village!

May, J. The Ecology of Malnutrition in the French-speaking Countries of West Africa and Madagascar. Hafner Publication, New York, London, 1968.

For Sahelian countries, Senegal best discussed. Point of interest:

children below eight months show no signs of deficiency; between eight months and weaning, deficiencies begin but can be treated if diagnosed. After weaning, situation worsens and 65% of children have obvious signs of deficiency. Some examples of good food sources and traditional cooking.

Mondot-Bernard, J. "La malnutrition, fléau de la petite enfance," in Options méditerranéennes, 29, 1976, pp. 75-79.

Deals with Third World in general. For interest for our study and in relation to Sahel: malnutrition occurs mainly during weaning. Denies popular belief that weaning is sudden in Africa; in most cases it is gradual, with some form of feeding beginning between four and eight months; problem is in what is fed to baby. Stresses that traditional length of breastfeeding should not be discouraged but rather present better method of child nutrition to villagers. To note interesting Algerian manufacture of local baby food to supplement breastfeeding.

Omolulu, A. "Nutritional factors in the vulnerability of the African child," in Yearbook of the International Association for Child Psychiatry and Allied Professions. Wiley & Sons, N.Y., vol. 3, 1974, pp. 331-336.

Interesting general article on mother-child relationship in cases of kwashiorkor: apathy, typical behavior in child, also develops in mother who loses interest in child. Treatment difficult without re-establishing rapport between mother and child. Other point of interest: rural schools, far from children's homes, generally exarcerbate problems of nutrition for feeding of children not considered in most schools.

Poix, Dr. J. "Causes de la malnutrition au Niger," in L'Enfant en Milieu Tropical, 90, 1973, pp. 4-5.

Causes for malnutrition in Niger: 1) food habits and food prohibitions main cause; 2) unsafe weaning habits, usually between 23 or 24 months, but with no consideration of child's health condition; 3) infections, mainly measles, and food prohibitions linked with various sicknesses; 4) maternal causes: mother's milk, though of good quality, not enough; 5) lack of resources and ignorance.

Sankalé, M. et al. Alimentation et pathologie nutritionnelle en Afrique Noire, Maloine, Paris, 1974.

Most important and useful book on a general outlook of nutrition and health. Some interesting discussions (by J. Touryon) on storage of food, African ways of cooking (pp. 27-41) and on food habits and taboos (psycho-sociology of food, pp. 69-78). Stress in need to

standardize techniques of evaluation for more precision and objectivity; suggest use of WHO Technical Reports for these common techniques, thus avoiding use of subjective terms such as good, bad, mediocre (p. 83). On clinical examination of nutritional state of individual; kwashiorkor (pp. 123): cases and treatment; nutritional pathology is not easy to define. Point of interest: results of hospital treatment of malnutrition of children; cases followed up indicated that only 5% of mothers followed advice given to them. Conclusion (p. 139): Though medical and economic aspects of kwashiokor are undeniable, it is essential to realize the sociologic dimensions of problem. Study also stresses importance of distributing iron supplement to pregnant women.

Satgé, P. et al. "Principaux problèmes posés par la santé de l'enfant en zone tropicale: recherches et solutions," in L'Enfant en Milieu Tropical, 58, 1969, pp. 3-15.

Infant mortality highest between the ages of one to four or five; efforts of health care must be placed on ages of one year old of infant, or else results will be useless. Principal pathological problems of infant (malnutrition, lack of vitamins, diarrhea, various infections, measles, malaria...) and reasons. Solutions to rural problems not by increase of doctors, infirmiers and medico-social programs but rather 1) use minimal means at disposal to educate population of value of better nutrition; 2) better weaning habits must be supervised with patience; 3) based on author's own experience, suggestion of an itinerant team of two (itinerant infirmier and sanitation agent) which would make regular rounds of a set of villages, not less than once every two weeks.

Simmons, N. S. "Croyances badyaranké concernant certains animaux," (Sénégal) in Objets et Mondes, 12, 4, 1972, pp. 409-410.

Power of certain animals in making women and children sick if eaten, explaining prohibitions of some foods for women and children. Women of age to have children not allowed to eat eggs because it is believed that "one cannot eat others' children in order to feed one's own."

WHO. Lutte contre les anémies nutritionnelles en particulier contre la carence en fer. Rapport d'une réunion commune AIEA/USAID/OMS, Rapport technique, no. 580, OMS, Genève, 1975.

WHO. Nutrition and Infection. WHO Technical Report, series no. 314, 1965.

Technical details in relation to general problems of nutrition. Points of interest: lack of awareness of relationship between nutrition and infection; lack of certain vitamins affect general attitudes (e.g. of antagonism with lack of vitamin B complex).

II. GENERAL PROBLEMS RELATING TO THE MOTHER AND CHILD

Barrès, V. et al. La Participation des Femmes Rurales au Développement. IRAM, Paris, 1975.

An important document in the experiences of IRAM in Niger between 1966-75, specifically relating to women, to their problems and successes. A detailed analysis of family relationships which affect attitudes towards change. Various experiments and reasons for their failures analyzed, such as the "Bouillie de sevrage" and "Operation Coqs de Race," failures often due to lack of means, lack of understanding of traditions, and lack of sensitivity towards real needs of women.

Bazin-Tardieu, D. Femmes du Mali: Statut-image-réactions au développement, Leméac, Montreal, 1925.

A study based on extensive interviewing of students and adults, mainly within urban context; on changes in relation to women (girl and mother). Point of interest: In rural areas, woman is more independent economically and it is in migration to city that she becomes more dependent on parents or husband. Moreover, nature of polygamous living changes from rural area where woman enjoys more space, more help, while in urban area space is more limited (thus less privacy) and greater tensions create greater unwillingness on part of co-wives to help each other.

"Colloque de la Société Médicale d'Afrique Noire de langue française, séance de lundi 6 Mai 1974," in Afrique Médicale, 121, Juin-Juillet, 1974, p. 581-3.

Point of interest: p. 583, "L'intérêt pratique d'une methode simplifiée d'identification de l'enfant de faible poids de naissance en milieu africain" by N. Dimbu and Cl. Martin: suggest simple method for rapid classification of weight deficiency. Most probably could be of interest in training of infirmiers in rural dispensaries though method seems to be directed for use in hospitals.

Lambo, T. A. "The vulnerable African child," in Yearbook of the International Association for Child Psychiatry and Allied Professions, vol. III, Wiley & Sons, N.Y., 1974, pp. 259-277.

Important point: on how traditional upbringing in most parts of Africa help in the psychological stability of individual within group, "to ensure that the child's primary experiences...be mastery experiences rather than disorganizing failures" (p. 272), while in cities and semi-urban regions, alienation from traditions creates stress on both child and adult.

Luneau, R. Les chemins de la noce: La femme et le mariage dans une societé rurale au Mali, 3 vols., Thèse, Université de Paris V, Juin 1974.

Of interest in Vol. II: importance of excision: a rite of passage, preparation for marriage; traditions and taboos linked with rite, and treatment. In Vol. III: on heavy burdens of woman's daily routine. On conjugal happiness and unhappiness. Sterility: a conjugal tragedy, particularly for woman. Cure of sterility. On sexual relations during pregnancy and on difficult pregnancies. No voluntary sterility known except for 'supposed' abortions by unmarried girls.

Manciaux, Dr. M. Maternal and Child Health: Future Problems and Factors Involved in their Solution. Expert Committee on new trends and approaches in the delivery of maternal and child care in health services, OMS, Geneva, Dec. 7-15, 1975 (MCH/WP/75.6).

Point to retain from this short presentation: health needs of mothers and children are not at all well understood. Psychological needs ignored at expense of stress placed on nutrition. Distortions emanate and conflicts develop: such as women's liberation at the expense of the primary needs of the small child. Lack of coherent information due to 1) reluctance of people to discuss intimate problems frankly and 2) lack of confidence in health personnel.

Oduntan, S. O. "Conditions sociale et santé de l'enfance en Afrique," in Environnement Africain, 1, 4, 1975, pp. 70-77.

General.

Piault, C. Contribution à l'étude de la vie quotidienne de la femme mawri (Niger), CNRS, Etudes Nigériennes, No. 10, Paris, n.d. (after 1970 and before 1976).

A day, hour by hour, in a Mawri woman's life. Constant activity. Influence of Islam more recent than in other regions in Niger. Concerning pregnancy and childbirth and traditional foods and child care. On circumcision: with influence of Islam, infant boy circumcized at birth; no apparent excision. Discusses different types of marriage. Problems in relation to giving birth according to Western model: transition from crouched position to lying down difficult.

UNICEF. Le petit enfant au Niger. Document preparé par le C.I.E. à la demande du FISE/UNICEF, Paris, février 1974.

On malnutrition and its causes, infections and other sicknesses; on unsanitary conditions of habitat. Much which is similar to IRAM

documents, including frequently published "Fiche Technique" on "Bouillie de sevrage," but no mention of unpopularity of latter. Tendency towards decentralization of health sector seen as positive move. Emphasis on affectionate surroundings of traditionally-brought up child: never alone until age of six. On different types of marriage; divorces; and on prostitution (in urban settlements). Report expresses need for better understanding of traditional methods of contraception (root of dried n'gwane, a small bush, is boiled and drunk by women and "appears to be effective." General recommendations on health, education. One of main problems: lack of water.

III. PREGNANCY, CHILDBIRTH, MATRONES

Adler, A. "Les jumeaux sont rois," in L'Homme, vol. 13, nos. 1-2, 1973, pp. 167-192.

Twins are given names of kings because they are feared but this fear is due to physical and economic difficulties of making them survive. Special rites and special individuals linked to their birth. Many taboos and precautions placed on parents. Triple rite of not touching babies before arrival of priest and his wife, of burying placenta under anthill and of washing babies in cold water are a protection against death and hostility. Parents live together instead of temporarily separating their living quarters after this birth. Symbolism linked with birth of twins.

Animation Féminine, Ministère de Développement. Rapport d'activités-Animation féminine, 1er Semestre, 1975, Ministère de Développement, Niamey, Niger, 1975.

On governmental health and agricultural projects undertaken in several rural areas with women. Problems. Participation of women; their criticisms and suggestions are important aspects of report. Succinct presentation of training of matrones. On traditions linked with pregnancy, birth, weaning, breastfeeding.

Bitho, S. M. et al. "Les accidents de la circoncision et de l'excision en milieu africain," in Bull. Soc. Méd. Afr. Noire, Lang. Fr., 20 (30), 1975, pp. 249-255.

On accidents that happened during circumcision (12 boys) and excision (3 girls) ceremonies by ill-equipped and ignorant traditional practitioners. Clinical discussion. Notes that such cases are far from being rare.

Bourgeade, A. and Kadio, A. "Inoculations traditionnelles et inoculation iatrogénique du tétanos en Afrique Tropicale," in Afrique Médicale, 134, Nov. 1975, pp. 809-814.

1. Tetanus of umbilical cord: one of highest reasons of infant mortality in Third World, especially in Sénégal. Reasons. lack of dispensaries and maternities in rural areas; carelessness; unhygienic material.

2. Tetanus due to overdose and overuse of quinine in form of injections on request.

3. "Des mesures draconiennes" (p. 811) must be put into effect to put a stop to such habits.

Clarkson-Goulet, M. "L'enfant né 'coiffé' chez les Bedik," (Sénégal) in Objets et Mondes, 12, 4, 1972, pp. 399-400.

Description of traditional way of giving birth. Traditional significance of event of child born 'with hat' ("coiffe") and rites linked to such birth. Stresses importance of needed further study of such matters too rarely dealt within anthropological works.

Crapuchet, S. et Paul-Pont, I. "Enquête sur les conditions de vie de l'enfant en milieu rural au Sénégal et en Gambie," in L'Enfant en Milieu Tropical, 39, 1967, pp. 3-25.

Contains information on infant feeding. Study done in Khombole, Senegal, and in Iajara, Gambia. Changes that have benefited both parents and children (in nutrition and water wells). Statistical study based on interviews. Presentation of sanitary conditions, on habits relating to children (such as sleeping next to mother or another adult at least until 12-15 months), or frequency of consultation of dispensaries by women (73%); on food consumption.

De Lourdes Verderesse, M. and Turnbull, R. L'accoucheuse traditionnelle dans la protection maternelle et infantile. OMS, Genève, 1975.

Points of interest: On value of traditional accoucheuses who understand need of mother and baby. On harmless habits which should be kept because of their psychological effects (wearing of talisman; traditions linked with placenta and cord; rites and celebrations linked to birth; etc.); on dangerous habits which should be changed (strict diet of pregnant mother; pressures on uterus during difficult births, etc.). It is only by taking into consideration traditions that change can be instilled. Gives interesting examples. List of teaching objectives. A valuable and essential document for training of traditional birth attendant.

Diallo, Dr. "Formation des matrones traditionnelles au Mali. Maternités rurales," in L'Enfant en Milieu Tropical, 92, 1974, pp. 24-26.

Points of interest: brief outline of role and "salary" of traditional matrones. Old women do not want to leave home for training. UNICEF document (not told which one) is not practical to realize in rural areas with minimal facilities.

Erny, P. Les premiers pas dans la vie de l'enfant d'Afrique Noire. Naissance et première enfance. (Elements pour une ethnologie de l'éducation). L'Ecole, Paris, 1972.

An extensive and detailed study on all aspects of the growth of the baby and of the mother all over Black Africa, with anthropological material supporting discussion. General study of great interest for

it is a synthesis of accumulated details in available literature, though psycho-sociological interpretation of traditions tends to be viewed through Western eyes (especially in relation to weaning).

_____. "Placenta et cordon ombilical dans la tradition africaine," in Psychopathologie Africaine, no. 1, 1969, pp. 139-149.

On traditional difference made between placenta and umbilical cord. Symbolism. Traditions in Casamance and among Dogon. Mythical links to traditions and conceptual basis for different ways of dispensing of placenta and umbilical cord.

Fall, I. "Matrones et maternités rurales au Sénégal," in Carnets de l'Enfance, Paris, no. 28, Oct.-Dec., 1974, pp. 17-28.

Idea of creation of rural maternities came from a traditional matrone whose house had become a large delivery room (p. 20). Stresses importance of matrones in poor, rural areas, but notes that experience has shown that education of matrones is not enough for it must be simultaneously done with that directed towards population as a whole. Description of experience of rural maternities in Khombole, Senegal, begun with the collaboration of UNICEF, FAO and WHO. Immediate goal: eradicate neo-natal tetanus (infant mortality in Khombole has been reduced from 70% to 35% due to control of tetanus). Projects and strategies cannot be successful without supervision of personnel.

Fall, M., Baldé, I., Diop, A., and Diadhiou, F. "Appendice caudal chez le nouveau-né," in Afrique Médicale, 117, février 1974, pp. 127-130.

Instances of birth of child with "tail" are not unknown in the world. Has always been of tragic consequences to both parents and child. Explanation: external, useless appendage can be simply and successfully operated upon; "an enlarged external tumor." The awareness of rural infirmiers of such frequent oddities and their cures can greatly appease fears of family and group and thus prevent some tragic consequences.

Gomis, F. "Croyances et pratiques: maternité au Sénégal (Diakhankes et Coniaquis, et Serer du Sine)," in Afrique Médicale, 126, Jan. 1975, pp. 77-79.

Some traditions linked to conception, pregnancy and birth. On burying of placenta and umbilical cord. The Serer women, unlike women in the other two groups, continue with daily work and simply go behind hut to give birth to child who falls on sand. It is only then that a sage-femme comes to cut cord and wash baby.

Isaly, Dr. "Surveiller la mère et l'enfant," in Afrique Médicale, 143, Oct. 1976, pp. 595-6.

On importance for infirmiers, specialized or not, to be aware of risks linked to pregnancy: 1) the extra-uterine pregnancy and abortions; 2) aggravation of pre-existing state of health.

Jelliffe, D. B. and Bennett, F. J. "Aspects of child rearing in Africa," in Journal of Tropical Pediatrics and Environmental Child Health, 18, 1, March 1972, pp. 25-43.

A general discussion on child rearing with emphasis on East Africa and Nigeria, based on updated 1950 experiences. On advantages of polygamy for child spacing, benefits of breastfeeding and usually affectionate surroundings during children's upbringing. Problem of modern medical units which do not take into consideration socio-psychological context of needs of mother and child in rural areas. Problems of acculturation in urban areas.

Monteil, V. L'Islam Noir. Editions du Seuil, Paris, 1971.

One of best books on the subject. For our purpose, points of interest: on excision and on importance of traditional pharmacopoeia.

Poix, Dr. J. Dix ans de protection maternelle et infantile au Niger, mémoire, Section Médecine, Ecole Nationale de la Santé Publique, Rennes, 1970-71.

Experience in urban milieu, but problems are very similar to those in rural area. One of most interesting documents for Poix shows process of contact, rejection and acceptance of urban-rural Djerma women; of psychological attitudes of both patients and doctor; the despair and disappointments, hopes and results. Most essential key to change: patience. Stresses importance of education of husbands, who block process of change in fear of change. It is very important to read this document for it shows that no matter how good a project may be, success will not be possible without the confidence of the people, without the attitudes of openness and interest on the part of well-trained 'infirmiers.' It is also essential to speak the language not only for the doctor but also the 'infirmiers' who are often from different ethnic groups. Extensive section on misconceptions of traditional health habits that exacerbate ailments and diseases, in relation to baby and mother (pp. 23-31).

Rey, M., Diop, I. et Sow, A. "Le tétanos," in L'Enfant en Milieu Tropical, 99, 1975, pp. 3-27.

April 6-12, 1975: International Conference on Tetanus, held in Dakar. Nine African countries participated. Tetanus is one of primary causes of infant mortality. On reasons for tetanus. Traditional practices. On preventive measures. "Fiche Technique" (Technical Chart) on neonatal tetanus and treatment within a "specialized unit" (pp. 17-20).

Rouch, J. Les Songhay. Presses Universitaires de France, Paris, 1954.

One of rare ethnological works on Sahelian people with some details on pregnancy, childbirth, circumcision, child's education (enculturation), and on problems of sudden weaning and forced feeding. See pp. 38-39; 53-56.

Sanchez-Medel, L. "Iron deficiency in pregnancy and infancy," in OMS-PAHO Advisory Committee on Medical Research, Iron Metabolism and Anemia: Symposium held during the 8th meeting of the Advisory Committee on Medical Research, June 9, 1969, Washington, D.C., PAHO-Sc. Pub. no. 184, pp. 69-71.

Importance of supplying iron (freely or at minimal charges depending on area) to pregnant mothers and even in areas where iron deficiency is not high.

Sanokho, A. et Senghor, G. "Le rôle des sages-femmes et des matrones dans la prévention du tétanos--Expérience Sénégalaise," in Afrique Médicale, 134, Nov. 1975, pp. 873-876.

Reasons for high rate of infant mortality in first days after birth said to be due to umbilical tetanus itself due to unhygienic environment and on method of cutting umbilical cord. Two actions to take: 1) passive one by immunizing pregnant mother as means of prevention of tetanus to newborn or 2) active, by educating population in basic sanitary concepts. Emphasis in training accoucheuse and of using women in age bracket of 35-45 years old, not older.

Touré, M. "Les hystérotomies de sauvetage et les ruptures utérines--la formation des matrones rurales," in Afrique Médicale, 14, 126, 1975, pp. 35-38.

On physical and psychological burdens placed on rural women. On ignorance of traditional old matrones who prolong delivery unnecessarily. Cases of uterine ruptures and their treatment. Growing need of younger matrones trained for rural situations and needs as a whole (success of initial group in the region of Sikasso in 1972 gives greater strength to use of younger matrones). Due to care of young matrones in Bougoumi region, Dr. Touré treated 11 uterine ruptures in 1973 instead of 42 in 1971.

Verzin, J. A. "Sequelae of female circumcision," in Tropical Doctor (London), vol. 5, no. 4, October 1975, pp. 163-169.

Listing of various types of female circumcision, according to seriousness and clinical discussion. Most extreme case is called "Pharaonic circumcision" and appears to be practiced in Sudan. It is interesting

to note that not one of Sahelian countries are mentioned in list. Author clearly notes that such a practice has too many psychological and religious connotations to be abruptly stopped and that it is only through greater awareness and education of women that change may come about and put an end at least to the most damaging side effects of practice.

Zagre, A. Approche de l'Enfant en Milieu Traditionnel Voltaïque. Université de Ouagadougou, projet UNESCO, Lycée Technique--Ouagadougou, cours universitaire niveau Deug, Année 1976-77.

One of rare documents analyzing in detail birth delivery and treatments linked to it in Upper Volta. Presentation deals with child within traditional context and how he is viewed by parents, by society and his relationship with the ancestors. Description of physical and mental care during pregnancy, labor rites, birth of twins, beliefs linked with time and place baby is born; naming traditions. Care mother takes of child and his nutrition: it is only regarding this point that author speaks of deficiencies in tradition. On teething and types of scarification (social and esthetic). Enculturation process and social integration through age groups, various rites such as circumcision and excision (indication of tetanus sometimes known to occur). Excision, as circumcision, is linked with educational process. On causes of infantile diseases and malnutrition and beliefs (usually supernatural) linked to infantile mortality. In conclusion, author, while expressing benefits of traditional education which integrates child within the society, he indicates the limitations of a closed-in society, not open to outside change. Stresses importance of a new type of schooling which takes into consideration the complete individual in relation to his environment, needs, conceptual framework, in his traditional links to God and nature.

WHO. The Primary Health Worker (PHW), Working Guide. WHO Working Document, Geneva, 1976 (1974).

Guidelines for training and adaptation. Emphasis placed on fact that material has to be adapted to locality. A most essential manual for health workers in rural areas (and even urban areas), but requires some literacy. Self-explanatory pictures; clear, simple explanations on what to do and not to do. Though material deals with general and most essential health problems, under different chapters, large section on MCH (pregnancy, labor, delivery, baby care, etc.). Explanations are particularly good for they deal with each aspect, step by step, with accompanying illustration, giving reasons and solutions.

IV. BREASTFEEDING AND WEANING

"Alimentation complémentaire, fiche technique (Niger)," in L'Enfant en Milieu Tropical, 90, 1973, pp. 15-18.

The much published recipe of infant food as supplement to breast-feeding and during weaning.

Barbey, G. "Santé, hygiène, éducation nutritionnelle au Niger," in L'Enfant au Milieu Tropicale, 78, 1971, p. 3-28.

Similar to Belloncle et Fournier. Of interest: presents teaching methods of "Bouillie de Sevrage" with drawings as shown to villagers.

Berenberg, S. and Masse, N. "Breast-feeding, weaning and child health services," in Modern Problems in Paediatrics, 15, 1925, pp. 169-176.

Though dealing mainly with Europe and South America, of interest to Africa as well: importance of breastfeeding is essential for child nutrition in underdeveloped countries; protection from unhygienic methods of feeding and a natural immunization against sicknesses for child. Must be integrated in all MCH programs everywhere.

Cameron, M. and Hofvander, Y. Manual on Feeding Infants and Young Children, P.A.G., N.Y., 1971 (ref. from UNICEF, E/ICEF/2.1303).

[This is a manual done by a consulting group on proteins necessary for infants and young children to be used essentially by those in charge of such programs in underdeveloped countries.]

Jelliffe, D. B. and E. P. F. "Le lait pour les enfants," in Lancet, 2, 1975, p. 551. Reviewed in Afrique Médicale, 144, Nov. 1976, p. 649.

Review of literature dealing with composition of mother's milk in rich societies and in developing societies.

Mondot-Bernard, J. Relationships between Fertility, Child Mortality and Nutrition in Africa. OECD Development Centre, Paris, 1975.

A study with good bibliography based on wide-ranging literature that begins as far back as 1896 to the present day. Attempt at establishing from available material a statistical compilation and a synthesis on such topics as breastfeeding and birth-intervals; duration of breast-feeding in West Africa; on weaning habits, etc. Detailed analysis of research done in France in early 1900's on relationship between breast-feeding and amenorrhoea. Stress is placed on continued encouragement of breastfeeding in Africa; on important relationship between malnutrition

and infant mortality linked to discontinuance of breastfeeding; on necessity of using WHO health measure recommendations for nutrition education.

Niehoff, A. and Meister, N. "The cultural characteristics of breast-feeding, a survey," in Journal of Tropical Pediat. Envir. Child Health (London), 18, 1, 1972, pp. 16-20.

Review paper. Has some information on breastfeeding in Tropical Africa, in South America and Asia. Indicates, contrary to much of what has been written on subject, that weaning was not regarded as a difficult process in many cultures, but admits that there are "commonly accepted methods for hastening this transition." Point of interest: Islamic cultures insist on prolonged nursing of infant.

Omolulu, A. "Importance de l'allaitement maternel," in Afrique Médicale, 120, Mai 1974, pp. 485-487.

Points of interest: It is absolutely important to stop advertisement and propaganda concerning canned and powdered milk and use of baby bottle. These are first steps towards undernourishment and infections. Importance of breastfeeding: 1) best nourishment for infant; 2) beneficial psychological effects for both mother and child; 3) deterrent to breast cancer.

Rasa, F. "L'allaitement maternel et la contraception," in Afrique Médicale, 145, Déc. 1976, pp. 737-8.

Social and natural forms of birth control: 1) According to how long mother breast-feeds baby, she has usually no menstruation, and this is a natural form of birth control; 2) Social prohibition of intercourse during breastfeeding of baby. On importance of breastfeeding as a complement to modern contraception.

Thompson, B. "The first fourteen days of some West African babies," in Lancet, 2, no. 7453, July 2, 1966, pp. 40-45 (Gambia).

Babies are fed immediately after birth by other women than mother for first two to three days. Child is healthy and gains weight first 14 days of life. Problems develop later.

_____, and Rahman, A. K. "Infant feeding and child care in a West African village," in Journal of Tropical Pediatrics, 13, 3, September 1967, pp. 124-138.

Study done in a small, isolated settlement in Gambia. It showed that children born during first half of year, during dry season, survived better than during rainy season when food is scarce and women are busy

in fields. Study deals with breastfeeding habits and abrupt weaning yet it also shows that traumatism depended entirely on surroundings to which child was sent during weaning: whether with many children, with affectionate relatives or not.

Vis, H. L. and Hennart, P. "L'allaitement maternel en Afrique centrale," in Les Carnets de l'Enfance, no. 25, 1974, pp. 87-107.

Importance placed on encouraging breastfeeding.

Welbourn, H. A First Book of Child Care for African Parents. Mills and Boon, London, 1966.

A useful little book answering basic questions, simply and clearly, relative to birth, care and nutrition. Directed to young mothers and to their husbands, mainly in urban and semi-urban areas. Implies literacy, of course. Encourages breastfeeding and shows problems linked to bottle feeding; encourages food of nutritive value and found locally, during weaning period. Brief presentation of common child ailments and diseases and treatment.

Zempleni-Rabain, J. "The weaning of Wolof children, its antecedents and certain implications," in Conditions de vie de l'enfant en milieu rural en Afrique, Dakar, 1967, C.I.E., Paris, 1968, pp. 212-218.

Weaning in Africa, a 'rite de passage'. The Wolof, in actuality, do not maintain long traditional breastfeeding and consciously attempt to get pregnant sooner than traditional precept.

V. CHILD SPACING

Caldwell, J. C., "Toward a Demographic Transition Theory," in Population and Development Review, II, 3-4, 1976, pp. 321-366.

[The hypothesis "is set forth that, excluding the transitional society, there are two kinds of situations: one in which it is economically advantageous to maximize the number of children; and one in which it is economically advantageous to minimize the number. Arguing that child-bearing patterns in both kinds of societies are based on rational decisions, Caldwell concludes that in the course of the coming century fertility will almost certainly fall to low levels in most societies--even where economic growth has been slow and per capita incomes remain low--because of the massive social change leading to the nucleated family structure found in the West." (From "Abstracts" in same Review, p. 549)]

Diarra, F. A. Femmes africaines en devenir: les femmes Zarma du Niger. Editions Anthropos, Paris, 1971.

Of great interest. Work based on extensive interviewing with women (498) and men (453). Obtained detailed information on sexual education. Having children is form of wealth for women but 47% felt two years should separate each child and 39% felt three years was necessary. Traditional child spacing as an ideal but 47% of women eager to know of "modern" methods. Importance of traditional medicine. Has lists on traditional medicine with scientific name, local name, and use.

Lactation, Fertility and Contraception. IPPF Bibliography Series, no. 44, London, Nov. 1976.

An up-to-date and extensive general bibliography, annotated.

Laplante, A. and Soumaoro, B. "Planning traditionnelle au Mali," in Education Sexuelle en Afrique Noire, IDRC, Ottawa, 1974, pp. 54-60.

Of great interest. The n'gwane plant is said to have contraceptive effect and is being tested by Dr. Kumare in laboratory of traditional medicine in Bamako. Every man and woman interviewed in rural and urban areas knew of at least two contraceptive (traditional) methods.

Manuel de Régulation des Naissances en Afrique. Ecole Nationale de la Santé Publique, Section Santé et Protection de la Famille, 2e édition, Rennes, 1976.

It is interesting to note that the department of "Santé et Protection

de la Famille" at the Ecole Nationale de la Santé Publique at Rennes, France, trained 70 African trainees in aspects of child spacing between 1974 and 1977. This training will be stopped in 1977 because of lack of funds. This manual, directed especially to personnel of MCHC centers and hospitals, deals with all aspects of modern contraceptive methods, their advantages and disadvantages; brief outline of traditional methods in Africa (pp. 51-52) and causes of sterility. Of interest: nine-part annex with bibliography of French-written articles and books on contraceptive methods. General observation: solutions of problems do not seem to be practical for rural conditions in the Sahel.

Okediji, F. O. "Family Planning in Africa: Overcoming social and cultural resistance," in Revue Internationale de l'Education de la Santé (Genève), 15, 3, 1972, pp. 199-206.

Okediji presents conceptual framework for classifying resistances to birth control according to whether they are social, cultural or psychological and their relationship to health. He analyzes reasons why contraceptive methods are rejected by African countries. Suggests strategy to overcome resistance: 1) use traditional argument: FP is a continuation of traditional child spacing (Okediji suggests term FP be changed to "family living" or "family welfare"); 2) overcome fear that FP techniques lead wives to infidelity; 3) have well organized communication system to promote program through traditional and modern media of mass communication.

Quist, Ch. K. and Coles, D. "Planification familiale pour l'Afrique," in Afrique Médicale, 140, Mai 1976, pp. 335-346.

A FP policy to be divided in three points: 1) spacing of births; 2) limitation of number of children; 3) reduce fertility at two extremes of woman's age (pre-17 years old and after 35 years old).

Richier, Cl. "Le Centre de Planning Familial de Bamako," in Afrique Médicale, 115, Dec. 1973, p. 895.

Points of interest: 64% of those who come to Center are literate, and with average of five children. In Center itself, a chart explaining some of ineffective and harmful traditional medicines linked with fertility, contraception or abortion.

"Les Sages-femmes et le Planning Familial," in Afrique Médicale, 122, Août-Sep. 1974, p. 719.

Points of interest: FP is ineffective without its integration in an adequate health system which includes nutrition, vaccination, child health, improvement of water supply, and general education of villagers.

Such an interpretation implies multidisciplinary teams and particularly polyvalent 'infirmiers'.

Schieffelin, O., edited and compiled by. Muslim Attitudes towards Family Planning. The Population Council, New York, 1972.

Excerpts from books, from speeches of heads of states, from religious leaders, all showing that Islam did not oppose spacing of children for better health and wealth of the family. Though most excerpts and comments deal with Arab and Asian countries, much is pertinent to Africa, as a tool for greater awareness of the Koran's acceptance, if not encouragement, of child spacing.

Van Balen, H. and Ntabomvura, V. "Méthodes d'espacement de naissance authentique pour l'Afrique: l'allaitement naturel et l'abstinence post-partum," in Afrique Médicale, vol. 14, no. 126, Jan. 1975, pp. 41-45.

On possible hypothesis of correlation between prolonged breastfeeding and "natural" contraception. Benefits, psychological and physical, of breastfeeding. Ways of approaching spacing of children through traditions plus aid of modern contraceptive measures. To avoid unnatural use of anatomical pictures for health education and use of books on child rearing to African mothers whose knowledge of up-bringing of their own children is proven to be the most effective and natural. It is through valorization of traditions that education should be pursued.

Wolf, B. Anti-conception laws in sub-saharan francophone Africa and ramifications. Law and Population Monograph series no. 15, The Fletcher School of Law and Diplomacy, Medford, Mass., 1973.

Self-explanatory title.

VI. FERTILITY, STERILITY, ABORTION

Capron, J. Communautés villageoises bwa--Mali et Haute-Volta, Institut d'Ethnologie, Paris, 1973.

Extensive ethnographic study. Point of interest for our study: sterility of women and limited fertility rate are threatening existence of group and reasons apparently unknown yet promiscuous sexual behavior without restrictions is widespread. Breakdown of traditional behavior and ethics: no abstinence during menstruation nor during "two-month" period after childbirth. Author does not seem to have read Retel-Laurentin.

Defontaine, C. and Keita, B. "Le couple stérile (étude étiologique)," in Afrique Médicale, 144, 1976, pp. 615-622.

Study of 248 cases of couples from different ethnic groups in Mali. Clinical discussion for reasons of male and female sterility.

"Démographie en Afrique," in Afrique Médicale, 121, Juin-Juillet 1974, pp. 567-9.

Concerning abortions: on little information and on difficulties of gathering such information. Stresses importance on joint action of doctors and specialists in social science to gather such material.

Downs, W. G., Sacks, H. S. and Silver, G. A. Assessment of Sahel R and R Health and Nutrition Proposals in Central and West Africa. May 2-18, 1974, AID.

Two points of interest: On resistance by Western-trained doctors and nurses to admit existence (and effectiveness) of traditional healers. On importance and problems of attitudes towards fertility (mothers want as many children as possible because they know few will survive).

Erny, P. "Stérilité et rites de fécondité dans la tradition africaine," in Afrique Documents, 101, 1, 1969, pp. 47-61.

Sterility is a personal and social curse in all African societies. Usually attributed only to women. Three traditional causes: 1) anatomic defect requiring therapy; 2) ritual impurity or violation of prohibitions (purification and reparations required); 3) supernatural forces influence man's destiny. Author notes, but without supporting evidence, that traditional procedures to cure sterility are of an "efficacité incontestable," especially through use of pharmacopoeia and particularly in regards to psychological cases.

Retel-Laurentin, A. "Fécondité et Syphilis dans la région de la Volta Noire," in Population, 1973, no. 4-5, pp. 793-815 (Upper Volta).

Relationship between low fertility and high rate of syphilis among Bobo-Bwa of Boromo region. Gonorrhea diagnosed but more difficult to detect and treat. States reasons for sickness; to note that wave of sickness began in 1900. Urgency to pursue mass campaign of penicillin to stop risk of contamination of neighboring and migrant groups.

Retel-Laurentin, A. "Rickettsioses et avortements," in Gynécologie, XXVII, 1, 1976, pp. 71-74.

Comparative study of diseases among pregnant women in Cameroon and Upper Volta where author practiced as gynecologist in rural villages of both countries. Points of interest: insists on fact that abortions are involuntary and are linked to disease. Notes that African women keep strict calculations of own menstrual cycles and are very conscious of any delays and of early signs of pregnancy. As in previous articles, insists on interest of population in medical treatments given.

Retel-Laurentin, A. and Benoit, D. "Infant Mortality and Birth Intervals," in Population Studies, 30, 2, 1975, pp. 279-293 (Upper Volta).

Of great interest: Medical investigation and treatment in three Bobo-Oulé villages. Relationship between infertility and venereal disease. Discusses reasons for high infant mortality. Point to unhealthy traditional customs and need to educate population. Length of sexual abstinence after pregnancy greatly varies and depends on decision to wean child. Emphasis is interest of population in investigation and in learning better health care once trust is established. Statistical study supports argument. (See previous study in Population, 1973.)

Retel-Laurentin, A. "Rites et mystères de la fécondité en pays primitifs," (Cameroun) in La Vie Médicale, 44, Août 1963.

Important points: 1) no trained or traditional matrones among Nzakara because of greatly diminished rate of birth; 2) child coming out from mother is not to touch earth (ground) in fear of its going back to earth. Child getting out easily is willing to live and falls into hands of 'accoucheuse'.

Reymondon, T., Boudarel, A. and Maistre, B. "Le médecin practicien en milieu africain devant la stérilité conjugal. Reflexions en marge de 587 dossiers," in Afrique Médicale, 9, 82, 1970, pp. 599-608.

VII. SICKNESSES AND DISEASES--MAINLY RELATING TO WOMEN AND CHILDREN

Arnaldi, J. C. "La médecine au Niger en 1975," in Revue de Pédiatrie, 11, 8, 1975, pp. 413-420.

Traditional vaccination for smallpox by Peuls Wodaabes said to be still practiced today. On the other hand, and in contrast to this knowledge, no realization of catastropic effect of not giving water to baby who has diarrhea. Traditional practices which are harmful during pregnancy and delivery are listed. Infant pathology discussed (point of interest: hardly any malformations seen in children, maybe because these children die early or are killed, as in case of mongolians). Food supply: number one problem today.

Barbotin, M., Charles D. and Darracq, R. "Traitement des anémies ferriprivés de la femme africaine et utilisation d'un complexe ferrique injestable," in Afrique Médicale, 118, Mars 1974, pp. 271-4.

High rate of anemia among African women, almost everywhere in Africa. Technically-presented discussion on way of diminishing ailment.

Greene, M.H. "Impact of the Sahelian Drought in Mauritania, West Africa," in Lancet, I, 7866, June 1, 1974, pp. 1093-97.

Main findings based on a ten-week nationwide study sponsored by USAID and under contract of the Center for Disease Control in Atlanta, Ga. 1) Acute malnutrition mainly seen among nomads; 2) malnutrition was of the marasmic variety; 3) severe vitamin deficiency present in isolated pockets; 4) measles was present in epidemic proportions; 5) cholera outbreak was controlled; 6) crude mortality rates were three times higher than normal; 7) the majority of those displaced insisted that they would not return to the desert (implying immense changes in attitudes and way of life); 8) "The solution to the long-term problems of survival and development in this region remains undefined."

Imperato, P. J. "Rougeole au Mali: attitudes traditionnelles," in Afrique Médicale, 133, Oct. 1975, pp. 695-706.

High rate of infant mortality due to measles. Author feels it is due mainly to 1) traditional concepts of diminishing nutrition of child during disease, leading to malnutrition (or is it not under nourishment?) and to 2) traditional healing. Author admits, however, that clinical tests have not yet been able to denote harm, if at all, of such methods.

Jelliffe, D. B. Appreciation de l'état-nutritionnel des populations, O.M.S. Genève, 1969.

Very general study. Deals with problem of danger of encouraging feeding of babies with bottle or other artificial means. Breastfeeding in underdeveloped countries is still essential and best nutrition for baby. Clinical description of some diseases typical to children.

Parry, E. H. and McDavidson, N. "Le pronostic de l'insuffisance cardiaque des femmes enceintes," in Cardiologie Tropicale, 1, 3, 1975, pp. 153-159.

Study done on women in Niger has shown that 20% of deaths during pregnancy and childbirth are due to cardiac problems. Indication that these causes are not sufficiently investigated.

Rey, M. "Les Méningites purulentes en Afrique," in L'Enfant en Milieu Tropical, 99, 1975, pp. 28-36.

Along with tetanus and measles, meningitis causes infant mortality. Discussion of areas most hit, Sahel and Savannah, especially during hottest period (Feb.-May). Of genetic factors and socio-economic context. Preventive measures (not isolation but immediate treatment) and suggested strategy (mass vaccination).

Sankalé, M. et al. "Place de l'éducation sanitaire des populations dans la lutte contre le paludisme en Afrique Noire," in Médicine d'Afrique Noire, XVI, 2, février 1969, pp. 209-214.

On traditional knowledge on malaria, on how to cure it and teach populations of preventive methods. Mention of traditional cures but not of their effectiveness.

Sarrat, H., Ridet, J. and Deubel, V. "Résultats d'une enquête étiologique sur les infections génitales féminines en zone rurale sénégalaise," in Bulletin de la Société Médicale d'Afrique Noire, 19, 1, 1974, pp. 76-79.

Results of an investigation into feminine genital infections in rural zones in Senegal: 15.9% trichomonas infections; 30.7% yeast infections; 2% gonnoccal and 5% neisseria infections. Authors note that though these infections are less than in urban areas, they are high enough and should be more seriously considered.

Soyaunwo, M. A. O., Ayeni, O. and Lucas, A. O. "Pathologie comparée de l'Hypertension: Sexe, parité et hypertension chez le Noir." Reference and review taken from Afrique Médicale, 125, Dec. 1974, p. 1049, no indication of date or editor; probably part of Symposium held on hypertension in Abidjan, 1974.

[Hypertension is more serious in women than in men, especially between ages of 20-49, that is, during period in which they raise child. Study was made in rural areas. Authors conclude that frequency of hypertension

in African woman is probably due to elements existing during pregnancy.]

UNICEF. Mauritanie--group de travail, Project UNICEF: Enfance, Jeunesse et Plan de développement. Etude Nationale, Nouakchott, Décembre 1971.

List of important illnesses in country: malaria (7/10 of population), bilharziasis, respiratory disease, measles, and epidemics according to regions. All these are linked to lack of sanitation, lack of facilities. Emphasis on preventive medicine. Indicates list of health personnel in country: 40 doctors, 4 of whom are Mauritanian, 10 midwives, 2 of whom are Mauritanian. Health care in rural areas is almost non-existent in 1971. Concentration of Maternal and Child Health clinics in urban agglomerations yet in an area such as Guidimaka, a Chinese team (report does not indicate number in team) was able to cover 100% of all births, certainly a remarkable percentage. Weaning of infants said to be particularly harsh. Nutrition an overwhelming problem to UNICEF mission team. Important to note emphasis placed on distributing free food of sevrage to all those who need it as a way of encouraging its acceptance. Nothing directly on traditions pertaining to health but rather a presentation of the general ill-health, particularly of children. Report notes that women traditionally participate in agricultural production to an important extent and therefore it is essential to include them in the national plan and to improve their participation.

UNICEF/Republic of Chad. Enfance, jeunesse et Plan de Développement--Conferance UNICEF. Fort Lamy, Novembre 1971.

Document discusses causes of mortality (malaria, tuberculosis, dysentery, diarrhea, amibiasis, contagious diseases). Only one center of MCH existed in Chad in 1971, created with help of UNICEF in 1965 and WHO at Chagoua. Women go only to health dispensaries after several days of suffering. Infant mortality especially caused by tetanus. Food taboos and ignorance have led to ill-based habits of nutrition. Emphasis of need to educate not only mothers but fathers as well on basic needs of infants. Presentation in detail of general situation in country and of list of diseases and area where they are most prevalent.

"La variole et la varicelle," in Afrique Médicale, 115, Dec. 1973, pp. 841-2.

A chart, with simple explanations, destined for use by infirmiers to help them distinguish between smallpox and chickenpox. It is underlined to the infirmiers that smallpox is very serious and should be immediately reported to Doctor of "Chef-lieu."

WHO. Health Progress in Africa 1968-1973, WHO, Brazzaville, 1973.

On work done by WHO in Africa. Survey of epidemics and diseases in Africa, by country. In many cases, increases instead of diminution, such as in measles; mortality cases in Sahel and West Africa in general have risen in each country.

Willard, H. W. A resume of some human and animal diseases of West and Central Africa, A.I.D., Sept. 1973.

A technical report listing prevalent diseases in area and their symptoms.

VIII. TRADITIONAL MEDICINE AND ETHNOBOTANY

Adler, A. and Zempleni, A. Le bâton de l'aveugle. Divination, maladie et pouvoir chez les Moundang de Tchad. Hermann, Paris, 1972.

The Moundang of Chad have a definite clinical knowledge of various diseases. Link between sickness, religion and magical concepts. Differences made between role of men and women in the curing of different illnesses. On possession, divination and social hierarchy. Brings up significant point: importance of understanding concept of sickness in a society, of rituals linked to it and of its system of diagnosis.

Aujoulat, Dr. L. P. Santé et développement en Afrique. Armand Colin, Paris, 1969.

A medical doctor who worked for many years in Africa (especially Central Africa). Emphasis on understanding of background and objective appreciation of traditional medical practices. Improve traditions instead of pushing them aside. Point of interest: many "concoctions" are of curative value; the main problem is the traditional healer's ignorance of weights and measures in relation to quantities given to patient.

Barkuus, A. Consultant's Report on Chad--Health Services. A.I.D., Jan. 15-March 20, 1976.

On health strategies. Of general interest. There appears to be a section on traditional medical practices in report but was missing in document consulted.

Bernus, E. "Cueillette et exploitation des ressources spontanées au Sahel nigérien par les Kel Tamacheq," in Cahiers ORSTOM, séries Sciences Humaines, IV, 1, 1967, pp. 31-52.

On gathering wild fruit and grains and important role of women in this activity. Short discussion of pharmacopoeia: treatment of cold, indigestion, headaches, measles (latter not effective cure); enema made of mixture of urine of cow and camel (no mention by author of unhygienic risks of such a practice); effective treatment of pimples and abscess.

_____. Les Illabakan (Niger): Une tribu touarège sahelienne et sa vie de nomadisme. ORSTOM, Paris, 1974.

A socio-economic and geographical study with some pertinent information on traditional cures and foods (pp. 102-104) and a list of

botannical terms with Tuareg equivalent (p. 109). A "bouillie" is given to pregnant women or women who gave birth to help with blood circulation (p. 104).

Colloque du C.A.M.E.S. Médecine Traditionnelle et la Pharmocopée Africaines, 18-22, Nov. 1974, Lomé, Togo.

General recommendations and some lists of indigenous cures from Rwanda and Upper Volta. Project to create, with CAMES, an "Institut de Médecine Traditionnelle et de Pharmacopée Africaine." It is not known whether this institute has been formed. Of interest is emphasis placed on secretiveness of knowledge of traditional medicine and plants in most of Africa leading to socio-economic problems of divulging such knowledge by those concerned: loss of income; loss of divine, religious, or magical powers; loss of trust in them by people.

"Colloque sur la Médecine Traditionnelle," in Afrique Médicale, 127, Février 1975, p. 165-6.

On Symposium held in Yaoundé in July 1974 on traditional medicine. Two points of great interest: 1) Traditional medicine effective mainly on 'state of mind' of traditional patient. 2) Long presentation on experiments undertaken in Cameroon: pharmacists, doctors and traditional healers collaborate in gathering information and in analysis of herbs in country. Some spectacular results reported, especially in curing of hemorrhoids, throat cancer, tumors, bilharzia. Forty thousand plants gathered and listed.

Important to note eagerness of traditional healers to collaborate with people who obviously comprehend techniques.

Eben-Moussi, B. "Les médecines africaines, populaires et autochtones," in Présence Africaine, 53, Jan.-Fev. 1965, pp. 194-207.

Distinctions between "sorciers," "féticheurs," and "guérisseurs." Traditional concept of sickness and the sick. Pharmacopoeiac procedures: traditional surgery and obstetrics. The harmful practices. Scientific aspects of traditional medicine deserve a better understanding. Author considers that interpenetration of Western and African medicine will be most effective in psycho-somatic and pharmacodynamic research.

Ferry, M.-P. and Gessain, M. and R. Ethno-botanique tenda (Sénégal). Musée de l'Homme, Centre de recherches anthropologiques, Paris, 1974.

A detailed study of 313 plants, their local name, western botanical name and their therapeutic use. Several categories under each description giving, whenever possible, time and method of cultivation, technology and commercialization, position of field in relation to

habitat, origin of plant, reference in oral literature, importance to ethnic group, etc. A list of typical foods. A detailed index as general reference. A significant anthropological-botanical study.

Gallais, J. and J. M. Pasteurs et paysans du Gourma: la condition sahelienne. C.N.R.S., Paris, 1975 (Mali).

Of great interest for general background. Of immediate relevance to our study: emphasis placed on importance of traditional concepts and practices as an instrument of modern economic development. Pro-fertility attitude of Dogon hampered by sicknesses. Dogon known for reputation as healers, e.g., have traditional vaccination for small-pox. Cites some 40 types of herbs and vegetables used against various sicknesses.

Gillet, H. "Feuilles de Miltou, Dagela, Koumra, Moussafoya," in Journal d'Agriculture Tropicale et de botanique appliquée, 10 (1 a 4), 1963, pp. 86-91; 108-110, 128-130; 146-148 (Chad).

Ethnobotanical study in various areas of Chad. Description and utilization of wild plants and trees and of medical uses of plants.

Harrison, I. E. "The traditional healer: a neglected source of health manpower," in Rural Africana, no. 26, pp. 5-16.

Nigeria taken as example but topic could have been of greater interest if recommendations more original. General point of interest: strategy to increase health manpower by using traditional potential.

Imperato, P. J. "Traditional medical practitioners among the Bambara of Mali and their role in the modern health-care delivery system," in Rural Africana, no. 26, p. 41-54.

Lists beliefs on disease causation among Bambara. Brings out awareness of people concerning ineffective and insufficient training of their own traditional healers, often more charlatans than real healers. Emphasis on absolutely greater need for better rural health delivery which will encourage villagers to come for more frequent visits thus "poor quality services [of traditional healers] will gradually be phased out by consumer rejection of them and their services" (p. 52).

Keita, S. "Tisane aux cinq plantes," in Afrique Médicale, 130, Mai 1975, pp. 423-426 (Mali).

On the preparation of a local "tisane" (drink) made from five plants. Medicinal value: treats hepatitis. Used also as a purgative and laxative.

Kerharo, J. "Les drogues remarquables de la pharmacopée sénégalaise: sur deux menispermacées," in Médecine d'Afrique Noire, 16(8-9), Août-Sep. 1969, pp. 665-668.

On traditional use and chemical composition of two plants used by traditional healers: one having diuretic properties and other used for various sicknesses linked with hepatitis, but also cures acute cases of malaria and bilharziasis.

_____. "Esquisse d'un programme d'étude et d'exploitation des ressources de l'Afrique Noire en plantes médicinales," in Médecine d'Afrique Noire, 12 (12), Déc. 1965, pp. 467-472.

Suggests that scientific study of medicinal plants in Africa should be undertaken scientifically: 1) Botanic and ethno-botanic studies (creation of center of documentation); such studies should be done locally; 2) Clinical and pharmacodynamic research in European centers; 3) Exploration of resources. Research should be done with collaboration of several states, under centralized direction and within several disciplines. Emphasis placed on use of all possible potential available locally.

_____, and Thomas, L. V. "La médecine traditionnelle des Diola de Basse Casamance," in Afrique Documents, no. 70-71, 1963, pp. 167-179 (Senegal).

Though Diola therapy has some interesting psychosomatic aspects, it leaves much to be desired because increase of charlatans has devalued effectiveness of traditional cures. Excessive secrecy renders research difficult and limits spread of cures. Both authors, known for their knowledge of and sympathy to traditions, note nevertheless that general aspects of Diola hygiene are dubious.

_____. La pharmacopée sénégalaise traditionnelle: plantes médicinales et toxique. Viget, Paris, 1974.

Very significant work. A most extensive and highly detailed (1011 pages) scientific study of numerous plants with their traditional usages, their chemical composition and their habitat. The study should be of great interest to botanists in Sahel and West Africa in general to see if plants exist elsewhere and whether and how they are used. Names and composition of plants (pp. 109-799).

_____. "Pharmacopées traditionnelles en environnement," in Environment Africain, 1975, I, 4, pp. 32-42 (Sénégal).

Lists traditional medicine of three different regions: Sahelian, Sudanese, Guinean.

_____. "Les plantes magiques dans la pharmocopée sénégalaise traditionnelle," in Etnoiatria, II, 1, Jan.-Juin 1968, pp. 3-6.

[Description of ritual of some magico-medical cures using plants from traditional Senegalese pharmacopoeia: Fulani cure for impotence; Serer cure for female sterility; Wolof cure for sterility and mental illnesses; Soce cure for leprosy. (Summary of article from CARDAN library card)]

_____. "Que sait-on des espèces médicinales vendues par les herboristes sur les marchés sénégalais?" in Médecine d'Afrique Noire, XXIII, 11, Nov. 1976, pp. 665-678.

Important methodology: made distinction between information gathered from professional healers who defend (and are able to analyze) traditional medecine and pharmacopoeia and those who sell herbs in market (i.e., difference between professional traditional and popular medicine). Lists 78 plants, popular and scientific names, cures suggested by sellers. Purpose of study: lists to be used essentially by doctors and "infirmiers" whose patients have previously used plants bought from popular markets. Emphasizes need for more knowledge and a more positive attitude toward traditional pharmacopeoia.

Koumaré, M. "Médecine traditionnelle," in Famille et Développement, 8, Oct. 1976, pp. 19-24.

Because of difficulties of extending modern medical facilities in rural areas, traditional medicine must be revalorized. Koumaré discusses condescending attitudes towards traditional methods which are no more valid. One of main problems is to regulate doses given in traditional medicines. Examples of collaboration between traditional and modern health systems seem to be successful in Ghana and Mali and should be extended to the rest of Africa. Notes continued resistance to use of traditional methods, not only because of modern education but also because of misconceived religious (Islam and Christianity) beliefs. Investigations and research essential.

Laplantine, F. Maladies mentales et thérapies traditionnelles en Afrique Noire. J.-P. Delarge, Paris, 1976.

Title more interesting than content.

Lebeuf, J.-P. Etudes Kotoko. Cahiers de l'Homme, Mouton, Paris, La Haye, 1976 (Chad).

A general but important study. Three points of interest for our study: 1) The planting and consumption of onions of great religious significance

to Kotoko (see p. 100) but also of curative value to treat neuralgies by inhaling and placing onion cut in half on eyes; used to cure scorpion and serpent bites. To note that there are three types of onions: a) curative type, tada, are very young wild onions, b) edible type, albasar, comes from Arabic term albasal, c) poisonous type, mani.

2) At Mandara, in the region of the Memé and Dulo, important schools of medicine still exist and are very frequented. They exist most probably since before the 17th century (see p. 12).

3) A very complex taxonomy of animals, birds and fish exists among Kotoko, regulating food prohibitions. These are important to know in matters of understanding traditional nutritional habits (see p. 40).

Logmo, Dr. B. Médecine traditionnelle chez les Basa du Cameroun. Approche anthropologique et perspectives éducatives. Thèse en médecine, Bordeaux, no. 206, 1975. (See review in Afrique Médicale, December 1976, p. 709.

Though study deals with the Cameroon, it is of general interest for Cameroon is in the process of integrating traditional doctors to modern medical system.

Monfouga-Nicolas, J. Ambivalence et culte de possession du Bori hausa, Contribution à l'étude. Editions Anthropos, Paris, 1972 (Chad).

Not of immediate use, but important in the understanding of the relationship between health and religion; of sickness considered as punishment; of food prohibitions; of therapeutic herbs and psychological release of cure. Cult linked with pregnancy, infertility, headaches.

Nicolas, J. 'Les juments des Dieux', rites de possession et condition féminine en pays hausa, vallée de Maradi, Niger, IFAN, Collections des Etudes Nigériennes, no. 21, Niamey, 1967.

Study of reasons why women join Bori cult; essentially for therapeutic reasons but important to realize that religious and magical factors of sickness are considered more dangerous than its physiological factors. A sterile woman is socially rejected; by joining Bori rite, members, once rejected, become positive elements in society. Discusses personal lives of Bori women. Shows economic independence of Hausa women in polygamous marriages.

Poulet, J. "Singularités des médecines africains traditionnelles," in La Semaine des Hôpitaux de Paris, 47, 52, 1971, pp. 3005-15.

Poulet stresses importance of understanding socio-cultural context of traditional medicine in Africa and its mystico-magical factors which

permeate all aspects of the life of the individual and the community.

Retel-Laurentin, Dr. A. Sorcellerie et Ordalies. Editions Anthropos, Paris, 1974.

This study has a very extensive and briefly annotated bibliography (837 items) on the practice of poison rituals in Black Africa. A synthesis of travel books, ethnographies, administrative and missionary documents in English, French, German, Italian, Portuguese and Spanish. The author studies all aspects of reasons why poison is administered to "accused," how it is prepared and the results. A work of great interest in understanding the socio-cultural reasons for such old customs which are nevertheless changed or adapted according to circumstances but whose importance is still vital in the concept of social vindication.

Traditional healers: use and non-use in health care delivery. Rural Africana, no. 26, Michigan State University, 1974-75.

Series of articles on use of traditional healers in health strategy. See Imperato, Dunlop, Harrison.

Traoré, D. Comment le Noir se soigne-t-il ou Médecine et Magie Africaine. Présence Africaine, Paris, 1965.

Presentation of all known West African diseases and ailments and their local cures (pp. 9-518). Importance stressed on understanding man in context of his environment, physical and mental. Treatments range from local cures for pimples to zazabi, or fever, from obstetrical problems to excision. It is essential to test all these local medical traditions, many of which, though not all, are of value. Most treatments seem to be those of Bambara and Hausa. Plants are also identified by Western scientific names.

UNESCO. Medicinal Plants of the Arid Zones. UNESCO, Arid Zone Research no. 3, Paris, 1960.

A detailed inventory of medicinal plants and of their pharmacological, therapeutic and commercial possibilities. No index to facilitate reference. Index in alphabetical order of Western names of plants.

WHO. African Traditional Medicine. Afro Technical Report Series, no. 1, WHO Regional Office for Africa, Brazzaville, 1976.

Regional Expert Committee on traditional medicine in Africa held in Brazzaville, Feb. 9-13, 1976. Outline of five steps to take in research towards greater closeness and collaboration between traditional and modern medicine; positive aspects of traditional medicine (especially

important in rural areas where health coverage is scarce) and negative aspects (imprecision, lack of control and rigor, abuses, charlatanism and sorcery); limitations of traditional practice must be understood, especially by traditional healers, thus convincing them of use to cooperate with modern health sector. Method of integration possible only when psychological reticences are overcome by both sides; team work essential; terminology defined. Commercialization of plants must be limited. Twelve-point recommendation.

IX. STUDIES OF HEALTH OF GENERAL RELEVANCE TO MOTHER AND CHILD

Afrique Médicale, no. 125, Dec. 1974.

Issue on hypertension, which is common not only to urban centers but also rural areas, from forests to deserts. A symposium held in Abidjan on problem in 1974.

Buck, A. A. et al. Health and disease in Chad. Baltimore, 1970.

Diseases and infections in the Republic of Chad--a study in the ecology of disease.

Burgess, A. and Dean, R. F. A., eds. Malnutrition and Food Habits. Tavistock Publication, New York, 1962.

Of general interest. A conference held in Mexico in 1960 which included several anthropologists. Of interest to our study: to note chapter 6 on "The social psychology of food habits." Correlation between way of life with level of difficulty in changing food habits (e.g., easy-going, affectionate, permissive, more resistance to change) seems highly improbable and subjective. Of interest: food habits correlated with self-image; a form of self-expression (p. 80). Maintenance of eating habits, of types of foods are important in the maintenance of level of inner stability, of link to outside world. Discussions on ethical concepts and food: the transition between the magic to the 'scientific', from the 'taboo' to the permissible is a slow one.

Cole, D., Joseph, St. and Vanderschmidt, H. Consultants' Technical Report: Mali Rural Health Project, AID, Jan. 1976.

General proposals on mechanisms of how to organize and dispense health care. Recommendations on ways to obtain and maintain records of treatment. See p. 23 for set of five questions basic to understanding of problems relating to choice of health personnel to approaches of training, to compensation of health workers, to traditional responses and to adaptation of health care to various ethnic groups.

Collomb, H. and Valantin, S. "The Black African Family," in The Child in His Family, ed. E. J. Anthony and C. Koupernik. The International Yearbook for Child Psychiatry and Allied Disciplines, Vol. I, John Wiley & Sons, N.Y., 1970, pp. 359-388.

Article is of particular interest in the understanding of the concept of family in Africa (Senegal taken as an example) and of inter-relationships within the family.

Hughes, Ch. and Hunter, J. M. "Disease and 'Development' in Africa," in Social Science and Medicine, 1970, vol. 3, pp. 443-493.

General on problems of health in Africa. Also interrelationship between sickness and poverty; development; increased 'deculturation.' Of interest to our study, following points: Traditional African diets provided "excellent and well-rounded nutritional regime" but population pressure, cash crops and food taboos have created unbalanced diets. Mother-child relationship has changed not only in urban but also in rural areas.

Imperato, P. J. Health and Nutrition Services of the Sahel I and R Program in Mali, AID, May 1976.

_____. "Nomads of the West African Sahel and the Delivery of Health Services to Them," in Social Science and Medicine, vol. 8, 1924, pp. 443-437.

_____. A Wind in Africa. Warren H. Green, Inc., St. Louis, 1975.

Above three references of great interest. Awareness and understanding of cultures. Nothing on maternal and child health problems.

Jansen, G. The doctor-patient relationship in an African tribal society. Van Gorcum and Co., Assen, 1973.

Introductory quote by Brockington (1967): "Health cannot be imposed upon a people, it must be in partnership with them." Study in Bomvanaland, Southern Transkei, but of interest in general understanding of problems of translation of Western health concepts into local needs; on preventive and curative methods being combined and in health strategies.

Labusquière, Dr. R. Santé rurale et médecine préventive en Afrique. Impr. Saint-Paul, Bar-le-Duc, 1974.

Study based on Cameroon experience but of general interest for Sahelian zone for many problems are similar. On strategy of public health in rural areas. Discussion of main infections and diseases, how to treat and diagnose them. Emphasis on preventive medicine, on problems common to pregnancy, on risks during weaning. Section on kwashiorkor and marasmus; on food for young child. On use of insecticides.

Lambrecht, F. L. Development and Health in the Tropics: I, West Africa. University of Arizona, College of Medicine, (1976?).

Of general interest and with general recommendations.

"Le Personnel de Première Ligne: Les Infirmiers," in Afrique Médicale, 125, Déc. 1974, pp. 1075-6.

On importance WHO places on training of "infirmiers" who have double significance of being agents of development of health system and instigators of change within communities. Less than 20% of population in Africa have any health services at all.

Menes, R. J. Syncrisis: The Dynamics of Health--XIX: Senegal. An analytic series on the interactions of health and socioeconomic development, U.S. Department of H.E.W., June 1976.

General background on Senegal and on Sahel (very similar to Imperato's presentation); list of diseases prevalent; on dietary practices. Mentions as health problem obesity of wives as status symbol but no indication of obvious effects of drought on such a custom in 1976. On rural health facilities in Senegal (Fatick, Pikine, Thombole, where greater efforts have been made to reach pregnant women and mothers). General listing of help from various organizations.

Sankalé, Dr. M. Médecins et action sanitaire en Afrique Noire. Présence Africaine, 1969.

Health and sickness are linked to the supernatural, to mystical life in traditional Africa, thus man must live in harmony with his universe; any deviations out of this harmony will lead to sickness. Author, presently Dean of Faculty of Medicine in Dakar, stresses importance of understanding psycho-social problems before implementing health strategy and emphasizes urgency for rural doctors to be "polyvalent." Two immediate priorities in health sector: women and children. For use of traditional matrones but insists on realistic understanding of their limitations. This book is particularly important for a general understanding of problems, attitudes and need (and ways) to change situation. "Que sera la situation sanitaire dans l'Afrique de demain? Nul ne peut le dire. Elle sera fonction de son contexte politique, social et économique. L'hygiène et la santé d'une nation sont de fidèles reflets de son degré de développement" (p. 428).

Veylon, R. "Les premiers jours de la vie après la naissance: Importance des relations mère-enfant aux premiers heures et aux premiers mois de la vie," in Sage-Femme Africaine et Malgache, no. 39, janvier 1975, pp. 7-17.

A comparative study between behavior of child and mother in hospital in Cleveland, Ohio, USA, and in a hospital in Uganda, in a journal directed toward African midwives.

WHO. Conference on Health Coordination and Cooperation in Africa.

Report of the 1st meeting, Yaoundé, 25-26 Sept. 1975. WHO, Brazzaville, 8 Jan. 1976.

General recommendations. Very similar to AID report on Congress on health (October 1976).

Y. PROPOSALS, EXPERIMENTS AND HEALTH STRATEGIES

AID. Niger: Improving Rural Health. PRP no. 683-0208. AID, 11/241/1976.

General recommendations with no explanations. Report mentions that Niger is "far ahead"of several African and Asian countries in matters of health organization, yet absolutely no mention of reasons for such "advancement" nor of numerous previous projects done in Niger nor of experiments undertaken by IRAM and other organisms in conjunction with government. One point of interest: mention of villagers' acceptance of new techniques once these are proven effective.

AID. Sine Saloum Regional Health Project, pp. 685-0210, 1977.

General recommendations. Notes that role of women is important and that response has been positive. "The project has been designed in accordance with cultural patterns and with desires expressed by the population" (p. 25).

Baylet, A. and Benyoussef, A. "Priorités, Planification et Indicateurs Sanitaires," IVe Conférence Internationale des Sciences Sociales et Médecine, Elseneur, Danemark, 12-18 Août, 1974, OMS, Genève, 1974, 7 pages.

Top priority must be given to national health planning which must be important and integral part of global national development. It cannot be disassociated from other actions of development, such as agriculture and education.

Belloncle, G. and Fournier, G. Santé et développement en milieu rural africain, Eds. Economie et Humanisme, Les editions ouvrières, Paris, 1975 (Niger).

Probably one of most interesting books on experiments in health strategy in the Sahel. Much of success (admitted to be little) was due to the dedication and perseverence of three doctors in three regions of Niger: Maradi, Zinder, and Matameye. Important points: emphasis on holistic approach to health and sanitation activities and of participation of population in own protection. Heart of problem raised: problem of economic and social standards, of modern versus traditional, of attitudes towards curative versus preventive medicine. Most valuable information on individuals, traditional habits, traditional treatments, all on cards and centralized in Niamey and Zinder. A wealth of information that should be organized and put to use. Description of infantile sicknesses in Maradi, of reasons for difficult pregnancies and consequences. Discussion and criticism of formation of secouristes and matrones (pp. 66-70 and pp. 101-103;

p. 79); problem of old age of matrones emphasized; women usually consider training as another 'rites de passage'; encourage idea of training younger women gradually. Important experimentation of "Operation bouillie" (pp. 82-85; pp. 185-188) and its problems; attempts to teach women how to better feed children, of gradual weaning; use of traditional porridge and addition of local foods to child's porridge. Experiments of Zinder (Chapter IV) of value: aim to include traditional medicine and traditional healer in experiments; list of infantile and adult sicknesses, symptoms and traditional cures. Heart of argument: Investigation-participation. A five-stage strategy of health outlined in pp. 189-199: 1) establishment of centers of diagnosis at level of each territorial unit; 2) analysis of population of its own (health) situation; 3) establishment of health units in villages; 4) permanent evaluation and continuous improvement; 5) creation of extensive mass campaign of health.

Benyoussef, A. et al. "Services de santé: couverture, facteurs et indices d'utilisation," in Bulletin de l'OMS, vol. 51, no. 2, 1974, pp. 111-132.

On lack of research done on health coverage in undeveloped countries and on need for multi-disciplinary approach which alone permits identification of medical, demographic, ecological and socio-economic determinants as well as organization and management factors. Description of technically simple methodology for statistical analysis, important for strategy of planning.

Birdsall, A. "Health planning and population policy in Africa," in African Studies Review, vol. xix, no. 2, Sept. 1976, pp. 19-33.

On population policy. Of interest to our study, following points: most governments in Africa encourage, as a policy, rapid population growth; "many forms of contraceptives can be administered by persons with minimal medical training" (p. 28).

Dunlop, D. W. "Alternatives to 'Modern' Health-delivery Systems in Africa," in Rural Africana, 26, 197, pp. 131-140.

To encourage a strong cooperation between traditional and modern sectors. Touches upon positive aspects of Chinese model of rural health system.

Fournier, G. and Djermakoye, I. A. "Village health teams in Niger (Maradi)," in Health by the People. WHO, Geneve, 1975, pp. 128-144.

Difficulties in rural health services which cover less than 15% of patients. Success in use of village health workers and of "village pharmacy." Need of qualified health attendants trained in preventive medicine and with understanding of local conditions. Limitations of

old traditional matrones. Of interest: villagers' enthusiasm and acceptance of change; their spontaneous participation versus official lack of continuity and of interest.

Gosselin, G. Développement et tradition dans les sociétés rurales africaines, B.I.T., Geneve, 1970.

Though his discussion deals with agricultural development, his three stages of development could be of interest for health strategies and the integration and role of women and children in these. Basis of argument: use those aspects of tradition which predispose reform and an emphasis on the personal responsibility of each individual.

Idriss, A. A. et al. "The primary health care programme in Sudan," in WHO Chronicle, 30, 1976, pp. 370-374.

WHO's assistance in health planning. Community participation is fundamental to the success of any program in Primary Health Care. Self-help and mutual aid inherent in Sudanese society. Emphasis of interaction of health sector and of socio-economic development plan. Aim is to cover 80% of rural area and to establish health units to cater to a population of 4,000. Community health workers are selected by community itself. Ideal and simple strategy with the aim of giving community responsibility of its health unit. Is of interest if studied and adapted to situations in Sahelian countries.

Logmo, Dr. B. "Prolegomènes à la méthodologie d'intégration des médecins en Afrique," in Afrique Médicale, 145, 1976, pp. 709-712.

Historic background and strategy for integration of traditional and modern medicine.

Mali Rural Health Services Development, PP, AID, 1976.

General discussion with general recommendations; questions and suggestions; no solutions. Emphasis placed on need to resort to traditional healers, midwives and medicine.

Ministry of Development, Niger. Rapport d'activités--Animation féminine. Animation Féminine, Ministère de Développement, Niamey, 1975.

On governmental health and agricultural projects undertaken in several rural areas, in relation to women. Health strategy in rural sector. Problems that arose; the participation of women in projects, their criticisms and suggestions. Succinct presentation of formation of matrones. Traditions linked with pregnancy, birth, weaning and breastfeeding.

N'daw, A. "L'école des sages-femmes de Dakar," in Afrique Médicale, 120, Mai 1974, pp. 493-496.

Of great interest for it brings out the great drawbacks of the school for midwives (though this is not intent of author) and the need for changes. School is very prestigious and urban; a three-year program with difficult entrance exam (600 apply, 30 accepted!). In 1954: four students in school; 1973: 87; nevertheless, such a situation is inadmissible in relation to immeasurable needs of continent as a whole.

O.R.T. Maternal and Child Health-Child Spacing Project--Republic of Niger. Final Report 1972-74, ORT, N.Y., 1974.

Very general, in spite of two-year experiment in 'Say arrondissement'. Approach through Family Planning not welcomed by government and population. Correlation between high rate of child mortality and short (less than two years) spacing of birth. Difficulties and constraints. Point of interest: Film produced by Niger and circulated throughout country ("One Must Decide") on child spacing; in Annex J: projects of future research: study to be made on which health methods are most effective; research to be undertaken on attitudes and traditional practices of the populations.

_____. Proposal for Maternal and Child Health--Extension Project in Niger, Cameroon, Chad. ORT, Geneva, 1971.

A proposal.

Prost, A. Services de santé en pays africain: leur place dans des structures socio-économiques en voie de développement. Masson, Paris, 1970.

Good bibliography. General discussion on health, development and the community. A list of priorities (p. 96) taken from Sankalé (1969, p. 407) and almost identical to Belloncle and Fournier (1975, p. 26): 1) preventive medicine; 2) protection of vulnerable categories first (children and mothers); 3) administrative reorganization; 4) formation of qualified national personnel.

Public Health Problems in 14 French-speaking Countries in Africa and Madagascar. A survey of resources and needs, vol. II, AID, 1966.

General survey on each country: demography, socio-economic problems, health system and health problems, diseases, who gives help, where and how much. Notes that Senegal is most advanced in its health administration.

Raimbault, A. M. "Evaluation permanente des programmes de nutrition intéressant les mères et les enfants dans les pays du Sahel," in Courrier-CIE, XXVI, 1976, pp. 7-11.

Raimbault stresses importance of continued evaluation of public health programs but indicates that resistance (on national and professional levels) appears to exist to this necessity. Three aspects in the evaluation: 1) epidemologic surveillance of nutritional and sanitary state of population; 2) study of change of nutritional habits; 3) studies in nutrition. Emphasis placed on changes in food habits of mother and child through education.

_____. C.I.E.: Organisation pratique d'un enseignement de perfectionnement pour personnel paramédical dans une république africaine, le Niger, C.I.E., Paris, 1972.

On philosophy and activities of 'Centre International de l'Enfance'. Discussion of Niger's strategy of rural health and the C.I.E.'s help in implementation.

_____. "Orientations de l'enseignement pour la promotion familiale dans les pays du Sahel," in Courrier-C.I.E., XXIV, 1, Jan.-Fev., 1974, p. 13-14.

Emphasis placed on importance of a polyvalent personnel in rural areas capable of dealing with various types of emergency situations.

Satgé, P. et al. "Essai de mise en place d'une protection infantile efficace pour la tranche d'age 0-4 ans dans un faubourg de Dakar (Pikine)," in Courrier-C.I.E., 20, 1, 1970, pp. 1-13.

Presentation of a strategy which relies primarily on volunteers (animateurs) and on mobile teams. Stress importance of giving preventive malaria pills of nivaquine to 0-5 year-olds. Other medicines should only be given with approval of doctor or nurse.

Swett, R. B., Herring, S. J. and Gastovitch, M. J. Some health service needs of the Republic of Niger. Prepared for APHA/CHAPS and USAID by team of Kaiser Foundation International, July 23, 1971.

Concise and clear general recommendations.

UNICEF. Enfance, jeunesse, femmes et plans de développement en Afrique de l'Ouest et du Centre. Rapport de la Conférence des Ministères qui s'est tenue à Lomé en mai 1972, FISE/UNICEF, Abidjan, 1972.

Studies made of eight countries: Gabon, Cameroon, Ivory Coast, Togo, Chad, Niger, Mali, Mauritania. Summaries of national studies made with recommendations on all levels of life of woman, child and youth.

Stresses importance of environment in the improvement of basic conditions of life: water situation, dispersion of human settlements, etc.; interdependency of problems; integration of youth in national programs; education of women not enough, regarding better nutrition, but that of men and youth. Report noted that women were far more willing to accept modern child spacing techniques than men. In a general recommendation for better health and nutrition of mother and child, it is suggested that locally-produced foods be either distributed free to children or sold at a very low price in local markets.

_____. Le Jeune Enfant: Perspectives d'action dans les pays en voie de développement--Projet de rapport et recommendations du Directeur Général. Fonds des Nations Unies pour l'Enfance, UNICEF, Conseil d'Administration, Session 1974 (27 mars 1974), E/ICEF/L.1303.

An important document on problems of strategy pertaining to health and education of children and on immediate needs. Recommendations on how to set up village pharmacy; on important use of millet mill (moulin à mil); on treatment of malnutrition. A valuable document with many references.

_____. "Problèmes de santé publique," in Carnets de l'Enfance, 23, Juillet-Sept. 1973, pp. 19-34.

Various articles on need for better health strategies in Third World.

_____. A Strategy for Basic Services. UNICEF, N.Y., 1976.

On how community workers are chosen by the community which participates in all aspects of programs designed for it. Some examples of such a follow-up strategy from Sahelian countries (Mali, Niger). Small booklet with bibliography useful for strategy outline.

Van Balen, H. "Une base integrée pour la protection infantile dans les pays en voie de développement," in Courrier-C.I.E., XXIV, 3, mai-juin, 1974, pp. 233-238.

Author discusses reasons of infant mortality, emphasizes importance of educating parents, not only mother, regarding nutrition and child spacing. General strategy for child's and mother's health outlined in six points (balanced nutrition for pregnant women and lactating mothers; prolonged breastfeeding and child spacing; balanced "bouillie de sevrage"--after parents acquire awareness of problems; use of hygienic and simple food utensils for baby; vaccination and treatment of serious diseases). A one-page scheme, on the basis of a credit-debit bank sheet, shows the state of health of a child.

WHO. Conference Atelier sur les soins de santé primaires. janvier 13-22, 1977, Niamey, Niger.

Interesting WHO document with presentation of most recent data on Sahelian countries, relative to population and health facilities, various health needs and justification of suggested plan of action for Primary Health Care. Last three pages presents problems encountered in each country in relation to plans, weak and strong points of each plan. Realistic evaluation. (Senegal appears to have far more problems of implementation of plan. Lengthy discussion on nomadic region of Tchin Tabaraden in Niger.) Common problems in all countries: unreliable health personnel; unrealistic programs; lack of communication; lack of information; lack of finances; neglect of rural areas.

_____. National Health Planning: its value and methods of preparation. Africa-WHO, Technical Paper, no. 57, Brazzaville, 1974.

_____. Trends in the Development of Primary Care. Report on a Working Group, Moscow, 10-14 July, 1973, WHO Copenhagen, 1973.

Though report does not deal with Africa directly, it is important in that it stresses the multidisciplinary Primary Care Health teams, on its composition and functions.

Williams, C. D. and Jelliffe D. B. Mother and Child Health: Delivering the Services, Oxford University Press, London, 1972.

Important for the planning of any health strategy. What MCH work is to be and attitudes its personnel should have (particular stress on accepting others' culture and traditions while being concerned with harmful traditions). How to approach FP. Problems common to children and what preventive measures should be. Book is of great interest for all health strategies in underdeveloped world and is directed to specialists of health going to such regions, thus, outsiders. It is not a manual but a reference book; however, it seems to assume that some kind of health network does exist and that staffing has certain amount of specialization. Emphasis placed on multidisciplinary and interrelationships of health, education and agriculture. Emphasis also placed on adaptation to local conditions and use of local potential, such as illiterate midwives in the Sudan since 1930's.

XI. GENERAL BACKGROUND: SELECTED ANTHROPOLOGICAL AND DROUGHT STUDIES

Abela-de la Rivière, M.-Th. Dioliba, village modèle. Un essai d'amélioration de l'habitat rural au Mali. Impr. St. Paul, Fribourg, 1973 (extrait de Anthropos, vol. 68, 1973, pp. 192-234).

Of indirect interest but excellent example of misunderstandings between foreign technicians and villagers of a "new" village built with the help of USAID. Sent architects and technicians. Acquiescence of architects to villagers' desire for the "modern" (i.e., tin roofs, ill-fitting weather conditions) but stubbornness in building huts with little understanding of present and changing socio-economic conditions of villagers who had to build additions to huts.

Points of interest: structure of huts changed habits of housecleaning of women; good faith of foreign technicians was not enough; need for better communication and greater understanding of local habits essential.

Bellin, P. Jeux d'enfants dyoula à Bobo-Dioulassa (Haute-Volta). Impr. Cartésienne, Le Cateau, 1974.

Such a reference may be of great use in setting up methods to teach children health care through games they understand. Games described on how to control meanings; games of cleverness; games children construct; games with strings; games inspired from modern living (as the train); games of imitation, of hunting, etc.

Belloncle, G. "Ecole et développement rural en Afrique Noire," in Recherche, Pédagogie et Culture, no. 15, 3, 1975, pp. 14-19.

On the importance for rural schools to understand their 'milieu' so as to better improve it: "Ce n'est qu'à condition de devenir cette école ouverte que l'ecole pourra devenir effectivement l'école du développement" (p. 19), i.e. upon the condition of being an "open" school will development be effective through school.

Coblentz, A. Goranes et Toubous des confins nord du Tchad, étude anthropologique et biologique. Paris, 1961.

Purely anthropometric study.

Lebeuf, A. M.-D. Les Populations du Tchad. Presses Universitaires de France, Paris, 1959.

General background material on various ethnic groups of Chad. Important ethnological material but with no reference to medical practices, diseases or sickness.

Le Rouvreur, A. Sahariens et Sahéliens du Tchad. L'Homme d'Outre-Mer, Eds. Berger Levrault, Paris, 1962.

General ethnographic study on 50 different ethnic groups of Northern Chad. Of great interest.

Newman, J., ed. Drought, Famine and Population Movements in Africa. Syracuse, N.Y., 1975.

Symposium. Various articles from across Africa. General. On Sahel: drought, economic conditions, internal migration.

Norris, H. The Tuaregs: Their Islamic Legacy and Its Diffusion in the Sahel. Aris and Phillips, Warminster, 1975.

Very interesting on general cultural background of Tuareg and the influence of their scholars. Picture presented of social change.

Povey, G. Mali and the West African Drought. International Services Division, AFSO, 1974.

Report deals with survey of relocation of 100 nomadic families in Mali. Presents some pertinent questions (pp. 6-7) dealing with overwhelming change for nomads. Point of general interest: "It is generally assumed, however, that nomadism is obsolete and that eventual sedentarization is inevitable" (p. 9). But we are not told who assumes such an assumption. No mention on problems of nutrition or health.

Rupp, M. Anthropology of the Maures, Peul, Guera, Bambara and Soninke in the Naro-Niono Plain (Mali). UNDP Project, Mali J23, 1975.

An overall study on socio-economic situation, but not a word on health situation before or after drought or on women and children.

Sheets, H. and Morris, R. Disaster in the Desert: Failures of International Relief in the West African Drought. Special Report, Humanitarian Policy Studies, The Carnegie Endowment for International Peace, Washington, D.C., 1974.

Self-explanatory title. See similarity of criticisms in Coppens, J. Sécheresses et Famines au Sahel, Maspero, Paris, 1975.

UNICEF. "Enfants et environnement Africain," issue of Les Carnets de l'Enfance, no. 26, 1974.

Article of particular interest: E. Dussauze Lugrant, "Une capitale de la sécheresse investie par les bidonvilles," pp. 73-89. Though

little pertains to traditions directly, this article on the settlements that are around Nouakchott during the drought is particularly pertinent for it brings out an important problem that must not be forgotten: the overwhelming effect of the drought on an entire ethnic group and the difficult transition for women and children. The psychological effect this abrupt sedentarization is having on both mother and child is immense and is consequently increasing needs in nutrition and sanitation (problem of water and space in living units). Adaptation to new life must be taught in the Koranic schools.

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Of general interest. Very little on mother-infant traditions and problems.

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Needs painstaking effort of research for specific references of interest. Bibliography presented in alphabetical order by author.

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Little on MCH and traditions linked to health.

Gontard, J. P. and Wadlow, R. V. L. "Bibliographies: Research Priorities for Medium and Long-term Development in the Sahel. A Bibliographic Essay," in Genève-Afrique, v. 16, no. 1975; v. 16, no. 2, 1975; v. 15, no. 1, 1976.

Part I: selection of material of U.N. organizations; Part II: discusses questions of evident importance; Part III: knowledge and use of water resources.

Hartog, A. P. den. A Selected Bibliography on Food Habits: Socio-Economic Aspects of Food and Nutrition. Part I, Tropical Africa, FAO Library, Occasional Bibliographies, no. 10, 5p. 1974.

Very interesting bibliography on all aspects of food. Some references in relation to infant feeding and weaning.

Joyce, St. J. and Beudot, Fr. Elements de bibliographie sur la sécheresse au Sahel. OCDE, Paris, 1976.

Useful bibliography on drought but nothing dealing directly with health of women and children.

Oxby, C. Pastoral Nomads and Development: a select annotated bibliography with specific reference to the Sahel. International African Institute, London, 1975.

Bibliography of works available only in London. No reference of immediate interest for Maternal and Child Health.

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[Frequency of possession rites, causes of sickness, therapeutic procedures.]

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[Population of region, clans, etc.; religion, medicine, marriage...]

Baumer, M. Noms vernaculaires soudanais utiles à l'écologiste. Editions de C.N.R.S., Paris, 1975.

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[A review of attitudes and ancient techniques of contraceptive methods.]

Bonte, P. Conditions et effets de l'implantation d'industries minières en milieu pastoral: transformations de la societe maure de l'Adrar mauritanie. Communication du 13e Séminaire, International African Institut, Niamey, 13 p. Roneo.

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