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Joye Jett

**UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT**

**THE ROLE OF TRADITIONAL MIDWIVES IN THE MODERN  
HEALTH SECTOR IN WEST AND CENTRAL AFRICA**

THE ROLE OF TRADITIONAL MIDWIVES IN THE MODERN  
HEALTH SECTOR IN WEST AND CENTRAL AFRICA

by

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## 1. INTRODUCTION

### 1.1 Traditional Midwives in Africa

Traditional birth attendants (TBAs) are a primary source of health care for pregnant mothers and newborns in most rural areas in Africa. They account for approximately 80 percent of deliveries. A TBA is defined as that person (male or female) who assists women in delivery and whose skills are obtained from practice or from a predecessor (10). TBAs are influential, respected members of the village community who perform an important function for the society. It is believed that the rural community prefers TBAs to government health services because of confidence, trust and the cultural sensitivity of the TBA. A true TBA is an obstetrician, a herbalist, a gynecologist and a pediatrician at the same time (13). She is typically an older, illiterate woman, has always reached the age of menopause and must have borne children herself. She has had no formal training. Her role includes employing technical and mystical skills to insure good health for the mother and newborn. TBAs are not a homogenous group; roles, practices and characteristics vary from country to country, village to village and midwife to midwife.

The TBA performs important psychological functions in African society through traditional rituals and ceremonies surrounding childbirth. The African lives in a world filled with complex beliefs which to him are vitally important. Events in life do not just happen by chance, but are intimately linked to supernatural and mysterious forces which shape their attitudes. Obstetrical beliefs are complex and vary from one group to another. Childbirth is always surrounded with many rites to protect the mother and newborn. The death of a newborn, miscarriage or sterility are never natural, there is always a manifest cause. Often the TBA acts as an important link between the process of childbirth and the control of invisible "forces" which threaten the process.

## 1.2 Training TPAs in Africa

Rural health conditions in Africa are basically similar. Only a small proportion of the population is granted effective access to modern health care. At least 80 percent of the population lives in rural areas. Most people live in villages or hamlets with populations ranging from several thousand to less than 100. These groups are often very isolated in low density rural areas (30). Human and material resources are typically concentrated on the needs of the urban areas. Two contrasting phenomena typical to rural areas are: (1) there is a lack of official health services and (2) the local health services that do exist are poorly used.

TBAs constitute a large reserve of health manpower. Options for health officials for dealing with this reserve may be to eliminate their practice, ignore them, or train and integrate them into a range of potential activities. In spite of the fact that most TBAs remain outside the organized health delivery systems, a movement to train and integrate them is being promoted in various developing countries and by the World Health Organization (19, 26).

In Africa, some countries have made attempts to train and utilize TBAs. A brief review of available literature reveals the following. A survey carried out by WHO (1975) in which 18 African countries responded to a questionnaire concluded that the activities of TBAs are extensive and reach beyond the delivery itself. They are frequently involved in antenatal and postnatal care. Seven of the countries replied that TBAs practiced traditional medicine in addition to conducting delivery. They are usually part-time practitioners, not professionals who are self-employed in the majority of the countries. Only six of the 18 governments recognized them and more strikingly only five

midwives' associations recognized TBAs. On the other hand, local communities in which they operate fully accept them. About 80 percent of rural women preferred TBAs to professional ones. Several points were made during the course of the survey: (1) local communities should be involved as much as possible in the selection and training of TBAs, (2) trainers should also be supervisors, (3) there is a danger that if not supervised, TBAs will quickly fall back to the old ways of doing things and (4) governments should employ TBAs on their payroll. Only three countries: Chad, Togo and Liberia reported that the TBAs were employed by the government. Seven out of the 13 countries reported to have training schemes: Ghana, Liberia, Nigeria, Sierra Leone, Togo, Upper Volta and Zambia (36).

In Ghana, TBAs are being trained as a part of the Danfa Rural Health Family Planning Project. An initial survey in 1972 registered 263 TBAs out of which 125 were males. Training programs and syllabus have been developed. Three pilot areas are involved in the study. A small-scale training course began in 1974 in one village with 12 TBAs. Initially, the training included a two to three two-hour sessions per month. Results will determine the feasibility of expanding the TEA training effort and help indicate additional ways to utilize the services of TBAs in Ghana. They hope to eventually use them as family planning agents (35).

Also in Ghana, a joint Ministry of Health and WHO project is training TBAs in Nkoranza, Kintampo. The TBA program started with a survey during which TBAs gathered in

A comprehensive rural health and family planning demonstration teaching and research program initially developed by the Department of Preventive and Social Medicine of the Ghana Medical School in 1965 and implemented under contractual agreement with UCLA and US-AID from 1970-1978.

villages close to their own homes and described their own experiences. This approach was duplicated from the approach used in the Danfa Project. Some young girls (not TBAs) have been chosen to undergo training. This is a trial approach however it seems that working with TBAs offers more positive prospects (28).

In Liberia, after completing the prescribed course of study, TBAs are awarded a certificate with which they apply to the local midwives' council. They then receive their license to practice from the Registrar of the Council. They are used as aides in clinics and hospitals and as family planning motivators. The trend is to increase training in the five government training centers (36).

Nigeria has a pilot training project in Sokoto, North-Western State. Training takes place at the School of Midwifery and is run by a senior midwife. Two projects in the planning stage are the Nigeria Family Health Project, Institute of Child Health, University of Lagos and the Taylor-Berelsan Project, Calabar, South-Eastern State. Dr. J.D. Desai (1975) reported that during the initial stage of a WHO project in Nigeria, the idea of training TBAs or even associating them with the project was rejected by the nursing profession. In addition, it was difficult to persuade TBAs to come forward because they were afraid of prosecution or the levy of taxes. The idea was accepted in principle only after persistent persuasion (27).

Ademuwagun (1973) conducted a study of 242 households in the Ibarapa Division in the Western State of Nigeria where the Medical School of the University of Ibadan had established its experimental integrated rural health project in 1963. One of the objectives was to identify the pattern of utilization of health services as a criterion for measuring the effectiveness of the project. 247 women responded to questions concerning the utilization of obstetrical and gynecological services.

The overall results showed that orthodox medical care has an edge over other traditional sources of medical care and services utilized. The major reason for this is the presence of other operating health services particularly those of the traditional healers/midwives and spiritualists/ "Aladura". The pattern of utilization of traditional healers/midwives is shown below.

Pattern of Utilization of Traditional Healers/Midwives  
Ibarapa Division, Western State, Nigeria, 1973

Obstetrics and Gynecology	No. of Cases	Percent who used Traditional Healers/ Midwives
Antenatal Care	183	19.1
Postnatal Care	175	13.7
Child-Delivery Complications	53	17.0
Lack of Conception	135	50.4
Abortion (Induced)	26	46.2
Miscarriage (Spontaneous)	115	25.2

The area in which the traditional healers/midwives had the highest percentage (50.4 percent) was those who sought medical care because of lack of conception. The reason for this is that most traditional Yoruba believe that traditional healers/midwives know the answers to solving this problem since its cause is intimately linked to their concepts of the spirit world (2).

Sierra Leone was reported by the WHO survey to have the best organized system of training TBAs at present. Village maternity assistants (TBAs) are trained for three weeks at the district hospital. Two annual training sessions are held simultaneously at two centres. Training encompasses maternal and child health work and leads to a certificate of maternal and child health aid. Advantages of the program are: the trainee is

sure to return to her own district to serve and it is easier to bring them under the supervision of health authorities (36).

The program in Togo does not train authentic TBAs. Instead, they train auxiliary midwives (accoucheuses auxiliaires) for 18 months who must come from a village, have a "CEPE" school certificate, are young and do not have experience in doing deliveries. They chose to train young, literate auxiliary midwives because it is too hard to train older TBAs. As of 1974, 317 auxiliary midwives had been trained (17).

With creation of Ujamaa villages in Tanzania, rural health services are staffed with four categories of primary health workers: medical assistants, rural medical aids, maternal and child health aids and health auxiliaries. Village midwives were recruited to become the maternal and child health aids. Each village sends one TBA to the district hospital where she is trained three to six months. They are responsible for maternal and child welfare, including family planning and nutrition education. After training, they return to the village to work at the dispensary or the rural health center(20).

Sudan has the oldest and most successful training program. They started training TBAs in 1921 and by 1975, there were 4,483 village midwives in active practice. This experience was a gradual evolution which preserved cultural and religious integrity. Initially, older TBAs or their daughters were trained. Today, eighteen training schools offer a nine-month course tailored to a illiterate, young (18-25 years) rural women (about 40 percent of village midwives are now literate). At the end of training, they are registered and issued with licenses to practice domiciliary midwifery in their areas. They are most often private practitioners. In addition to regular activities, they are allowed to distribute simple drugs such as ferrous sulphate, vitamins and chloroquine tablets. The safe practices of trained village midwives have almost replaced those of untrained TBAs (4).

Professor Ampoto<sup>2</sup> says that "review of the literature of training of traditional birth assistants shows that their usefulness has been short-lived. Apart from the training in Sudan, very few programs are really planned with well defined objectives". He cites four main factors that are responsible for the failure of training programs:

- (1) the emphasis is placed on the training of the TBA as a study and not on a continual process of education
- (2) no effort is made to prepare the community to receive the trained TBAs
- (3) no authority is made responsible for the replenishment of medical supplies
- (4) lack of sustained interest in training programs by government agencies (36).

Training programs for Senegal, Mali, Niger, Upper Volta and Cameroon are discussed later in this report.

Efforts to train TBAs as family planning motivators were noted in Ghana, Liberia and Tanzania. In many Asian countries such as Pakistan, India, Indonesia, Philippines and Thailand, programs have been undertaken to use TBAs to recruit family planning acceptors. These programs have met with varying success. Despite some problems, it is felt that the potential of traditional midwives as family planning agents cannot be ignored. In Iran, 232 TBAs have been taught to successfully insert and remove IUD's (13). In Africa, resistance to the idea of family planning is strong in rural areas, especially among Moslems. The African wants many children for the added social and economic value that the children bring. Excessive procreation is a reaction to the high death rate of children and assures the survival of the community and the society. The Danfa project hypothesized that the use of TBAs as a group to promote family planning would be difficult because of the archaic outlook of most of the TBAs (36).

2. Professor Ampoto works at Korle-Bu Teaching Hospital, Accra, Ghana.

Overall, it is felt that retrained TBAs can play an important role in maternal and child health services, family planning and low-cost primary health care schemes. Positive aspects to this approach are that they are accessible and available in rural areas, that they possess a knowledge of the environment and peoples, and that their opinions and advice have a special impact on the village community. On the other hand, negative aspects cannot be overlooked; their practices are frequently shrouded with secrecy and jealously guarded, they are ignorant of the limits of their skills, it is difficult to change their traditional practices, and they are difficult to train because of their old age and illiteracy.

It is generally felt that TBAs should be trained as a stop-gap measure while the training of nurses and midwives is accelerated (26). Total coverage of rural areas by trained professionals is a long way off. Foster feels that the number and quality of traditional practitioners are declining in many traditional societies. He feels that social, economic and educational change is coming with such speed that TBAs will not continue to be produced in the same numbers and with the same skills. Therefore, Foster suggests that their use as part of a modern system would be short-term and transitional(16).

### 1.3 The Role of TBAs in the Development of Women

Poverty of developing countries is accompanied by rapidly expanding populations, inadequate nutrition and unsanitary living conditions which are at the root of health problems. The most vulnerable group are mothers and their children who constitute 65 percent of the population in Africa. The rate of infant mortality (0-1 year) is estimated to be 150 to 300 per thousand. Mortality rates of children(1-5 years) is 40 to 50 times higher than in industrial countries. Thirty to 40 percent of children die before reaching the age of five (34).

High fertility rates imply high parity and high parity directly

affects maternal mortality. Due to the marked contrast of socio-economic conditions between rural and urban areas, the situation is much worse in rural areas.

The health of the rural female population directly affects the development of the country. The role of women in rural development can be classified into two broad categories:

(a) the labor market and community affairs: the rural woman contributes physical labor to the family-farm enterprise

(b) at home: the rural woman performs tasks which are directly related to her role as wife and mother as well as education of her young children (15).

Successful fulfilment of these roles can be seriously hampered by poor health, hygienic conditions, undernourishment and complications resulting from pregnancies. A rural African woman is pregnant or lactating the majority of her child bearing years. During this period, she is the most vulnerable and frequently the only person to aid her is the TBA in her community.

Training TBAs can have the double benefits of improving the health of rural women and children as well as increasing her own self-image and professional prestige. Women in rural areas constitute an underprivileged group who because of traditions are characterized by inferior social status. Training programs provide the TBA with an opportunity for access to non-formal education. During group training, TBAs are grouped together for the first time which acts to create a sense of professionalism and organization. This in turn leads to the possibility of establishing associations and codes of ethics. This process is a vital step toward increasing the social status of women. Training TBAs also improves opportunities for increased income through self-employment or employment through integration in the modern health system. It can help develop a positive

attitude toward participation in the social, economic and political life of her country. It can help to increase the social visibility of women who previously had been content to live in social marginality.

Health development programs should introduce concepts which improve the social status of women. Training TBAs can produce long-term results if carefully conceived. Their attitudes shape the attitudes of their community. Indigenous midwives can be the best qualified agents of social change or they can remain the most adamant proponents of the status quo. Hence no health program can afford to ignore the TBAs existence.

## 2. SCOPE OF WORK

Five African countries were visited: Senegal, Mali, Niger, Upper Volta and Cameroon in order to fulfill the following objectives.

### 2.1 Objectives

- (1) To identify and assess existing information and data sources on traditional midwives
- (2) To reach tentative conclusions about the role of traditional midwives in the delivery of improved health services in rural areas based on existing studies, data and discussions with public health officials and experts
- (3) To identify and analyze the constraints that inhibit the utilization of traditional midwives in the modern (governmental) health sector
- (4) To provide guidance to field posts on the implications of the study's findings for AID-financed rural health projects
- (5) To determine further research requirements.

## 2.2 Methodology

An average of ten days were spent in each country during which discussions were held with government officials, health personnel, traditional midwives, World Health Organization Representatives (WHO), United States Agency for International Development health officers (US-AID), UNICEF and other donor agency personnel interested in the project.

Literature search was limited to the African Region. Included were resources from the WHO Regional Office for Africa at Brazzaville, Congo, and available reports, articles and research projects obtained in the five countries visited.

Short field trips were made to major training sites when possible. Twenty-seven traditional midwives were interviewed in their working milieu to get a general idea of the application and acceptability of the program in the village community.

The reader will notice that traditional midwives are referred to by different titles in each country. These titles make it difficult to distinguish between traditional midwives and auxiliary midwives (See Annex 2). I have deliberately referred to all indigenous midwives as traditional birth attendants or TBAs to avoid confusion. Relevant information on the training of auxiliary midwives is included to show possible alternatives to rural obstetrics and to emphasize the conflict between modern health systems and traditional systems. Each country will be dealt with separately, with a summary at the end of each country. Common trends and constraints are grouped together in Section 8.

## 2.3 Limitations

Because of great socio-cultural differences between ethnic groups, communities and individuals, this is not an in-depth study, rather a survey which focuses on major trends and constraints concerning the training and utilization of TBAs.

- The survey was limited to five francophone countries<sup>3</sup> because of practical and financial considerations. Special emphasis was given to Sahelian countries.
- Field trips were limited, consequently the report concentrates on programs visited while others unknown to me are not included.
- Unfortunately, it was impossible to observe working habits of the TEAs, therefore, I was unable to analyze the effect training has had on changing traditional practices.
- I felt that most comments of persons interviewed emphasized positive aspects rather than problem areas. More time needs to be spent in the field in order to overcome cultural barriers and to gain the confidence of the population.
- Some key people were not available or on vacation, therefore, I could not include their opinions.
- Many statistics were not available or were contradictory which hampered the accuracy of the report.

<sup>3</sup> Official languages of the Cameroon are both French and English.

### 3. SENEGAL

#### 3.1 Demographic Profile

The population of Senegal is unevenly distributed. Out of a total population of 4,418,000 in 1975, 28.3 percent live in urban areas within the region of Cape-Vert (Dakar) being the most heavily populated. The majority of the Senegalese live in rural areas (71.7 percent). The population growth rate is estimated at 2.43 percent. As in most West African countries, the movement of the rural population is important. In Senegal, this movement is characterized by seasonal or permanent fluctuations. Male members of the rural population leave their villages seasonally to search for temporary employment to augment their annual income from cash crops. Others leave their paternal villages permanently, attracted to urban areas by the promise of a higher standard of living and easier life. This rural exodus puts pressure on economic and social development in both urban and rural areas.

Six African ethnic groups constitute 90 percent of the population: Wolof, 36 percent; Serer, 19 percent; Peulh (Fulani) and Toucouleur, 21 percent; Diola, 7 percent; and Manding, 6 percent. Most of these ethnic groups share similar cultural values. This is partly because of the widespread use of Wolof as a lingua franca and the influence of the Muslim religion which includes more than 80 percent of all Senegalese.

#### 3.2 Administrative Reform

Since its independence on April 4, 1960, Senegal has been divided into seven administrative regions: Cape-Vert, Casamance, Diourbel, Fleuve, Senegal-Oriental, Sine-Saloum and Thiès. These regions are divided into 27 departments then into 95 arrondissements. There is a total of 12,991 villages in Senegal. In 1972, an administrative reform was initiated, first in the regions of Cape-Vert and Thiès. Each arrondissement was

divided into rural communities in order to decentralize the administrative structure.

The rural community, or local collective, includes a population from 5,000 to 15,000 inhabitants. Divisions are made according to inter-village relations and ethnic similarity. Each rural community has financial autonomy and democratic representation. A rural council is elected by universal suffrage which is responsible for making decisions concerning economic and social development. Financial resources come from the rural tax and the animal tax. Before the reform, only 45 percent of the regional tax was used to finance regional projects, and without consultation or participation of the population. After the administrative reform, rural taxes must finance exclusively local development projects, after examination and approval by the rural council. The budget of the rural communities reflect, therefore, local felt needs by its inhabitants. As we will see later, this administrative reform is responsible for the high level of motivation felt by the rural population to solve their own problems.

### 3.3 Health Resources

The coverage of health workers and health facilities is inadequate at all levels in Senegal. Distribution of health services heavily favors Cape-Vert (Dakar) and other urban areas.

#### 3.3.1 Health Facilities

Health structures such as maternities, health centers, health posts and PMI (MCH) centers do not adequately cover the rural population. In 1974, there were 60 maternities, 33 health centers, 428 health posts and 66 PMI's of which 24 were located in Cape-Vert (11). Health posts cover only 15 percent of the population. Cape-Vert and Thiès are the only regions with adequate coverage. No PMI centers serve the rural areas. The

rural population is often discouraged from using available services because of long distances and traditional customs. Reasons why rural women do not like to deliver in maternities are:

- (1) Ignorance of services offered by a maternity for the health of the mother and child
- (2) Labor is often rapid and transportation is not always available
- (3) Many poor women deliver at home because they do not have money for transport
- (4) Many women above 30 years old refuse to have young midwives attend to them
- (5) Post-natal care is considered to be promiscuous to many Muslim women which encourages evil spirits to descend upon the newborn
- (6) Practices at the maternity may go against traditional beliefs, taboos and may provoke evil spirits
- (7) Women do not want to leave their children with the co-wife to go to a maternity
- (8) The mother must be present in the village to prepare the day of baptism
- (9) Preparing food at the maternity will put a financial burden on the family (1)

Because of these problems, some rural communities are building rural maternities at which either TBAs or auxiliary midwives work. UNICEF usually equips them. In the region of Thiès, twelve rural maternities are functioning and UNICEF plans to equip 20 more by January 1977 in the Sine-Saloum region (personal communication: Dr. Samaké, UNICEF).

The following chart indicates the ratio of health centers and health posts to population by region:

Ratio of Rural Health Facilities to Population by Region, Senegal, 1973

Region	Health Centers Density/Population	Health Posts Density/Population
Cape-Vert	1/324,500	1/13,250
Casamance	1/100,000	1/ 7,700
Diourbel	1/100,000	1/12,914
Fleuve	1/ 93,000	1/ 7,914
Senegal-Oriental	1/ 75,000	1/ 8,407
Sine-Saloum	1/ 96,500	1/10,157
Thiès	1/105,000	-

Source: USAID Development Assistance Program, FY/1975, Section Three: Senegal, Mali, Mauritania, March 1975.

### 3.3.2 Health Personnel

The inadequate numbers of health personnel at all levels and its concentration in urban areas is a limiting factor to the development of relevant health services for the rural population.

#### Health Personnel in Senegal in 1974

<u>Category</u>	<u>Total</u>
Doctors	227
Professional Midwives	312
Nurses	1,971
Auxiliary Nurses	659
Matrons (Trained TEAs)	77

Source: Statistiques Sanitaires et Démographiques du Sénégal, Ministère de la Santé Publique et des Affaires Sociales, 1974.

Trained health personnel concerned with obstetrics is limited. Midwives in Dakar are trained at a rate of around 27 per year. In 1974, a total of 198 midwives were located in the region of Cape-Vert (11). The concentration of midwives in urban areas creates a severe shortage in rural areas. The only recourse the majority of the population has to solve this shortage, is to rely on traditional birth attendants, who are called matrons in Senegal. Therefore, in order to improve the coverage for rural obstetrics, some health officials have undertaken with the help of UNICEF to retrain TBAs. From the following chart, it is interesting to note that in Cape-Vert there is one trained TBA to 198 midwives and in the regions of Diourbel and Sine-Saloum, trained TBAs outnumber midwives.

Coverage of Midwives and Matrons by Region, Senegal, 1974

<u>Region</u>	<u>Midwives</u>	<u>Matrons</u>
Cape-Vert	198	1
Casamance	16	5
Diourbel	18	21
Fleuve	19	5
Senegal-Oriental	5	5
Sine-Saloum	23	34
Thiès	33	6
<b>Total</b>	<b>312</b>	<b>77</b>

Source: Statistiques Sanitaires et Démographiques du Sénégal, Ministère de la Santé Publique et des Affaires Sociales, 1974.

### 3.4 Traditional Birth Attendants

It is difficult to say how many TBAs exist in Senegal.

However, Pellegrin (1970) reported that during a survey of 189 villages around the Khombole health center, 181 had TBAs.

Their distribution is unequal because in some villages with less

than 100 inhabitants and sometimes in bigger villages there is no TBA, while in others there may exist two or three.

A research project conducted in 1966 by Le Centre International de l'Enfance de France in collaboration with L'Institut de Pédiatrie Sociale de Dakar to determine living conditions of the child in rural areas, concluded that 44 percent of the 3,300 persons interviewed responded that a TBA assisted during childbirth, whereas 55.5 percent responded that deliveries were done with the assistance of a co-wife or the family without the matron (9). This indicates that ten years ago, more than 90 percent of deliveries were not controlled by professional health personnel. Today, it is estimated that official maternities control only 20 percent of all deliveries (1).

#### 3.4.1 The Serer

The complexity of ethnic groups in Senegal does not permit an in-depth analysis of obstetrical beliefs and customs within the scope of this study. However, before training TEAs is attempted, it is necessary to have a general idea about traditional beliefs, practices and the role of the TEA, so that one may better adapt teaching methodology. The following is a summary of Serer obstetrical practices and beliefs taken from Pellegrin's (1970) major work on traditional childbirth.

Composing 19 percent of the population, the Serer live in the Sine-Saloum and Thiès regions. Most Serer adhere to local traditional religious beliefs and have been slower than other ethnic groups to accept modernizing trends. About 15 percent are Christians and a few have recently become Muslims.

The Serer believe in one God, reincarnation and numerous good and evil spirits.

In order to become pregnant, it is necessary that a certain spirit possesses the woman. Man intervenes only as a secondary necessity. A pregnant woman must take many precautions to protect her unborn infant from evil spirits. She must avoid indiscrete looks, avoid eating certain foods and follow traditional rites because the conduct of the mother may have direct consequences on the infant. During pregnancy, a woman must be continually on the alert because sorcerers desiring vitality may eat the spirit of the unborn. Danger can also come from a co-wife, the jealousy of a man, a small family incident or the death of an animal. In order to protect herself from these dangers, a pregnant woman must take ritual purifying baths.

Childbirth always occurs behind the hut with old women watching from a distance. The moment the delivery is near, the young woman drops to her knees because the infant must land on soil. After the first cry of the baby, the old women rush to pick-up the baby, cut the cord and wash it. The TBA pronounces rituals and prayers and gives the baby a secret name in case it dies before the naming ceremony.

The placenta is buried by the TBA in the same place as the delivery which symbolically attaches the child to the village of its ancestors.

The first week after birth is the most crucial because the sorcerers are dangerous at this time and can easily "eat the baby's spirit". During this week, the mother must stay inside her home. A hole is dug to either side of the door, depending on the sex of the child, and all the waste of the child, dirty water and unfinished meals of the mother are buried in it. On the eight day, another hole is dug outside the hut to signify that all taboos have been lifted from the mother.

Twins are thought to be beings given a certain power. They are considered to be two friends who were united to return together on earth. A malformed newborn infant may be suffocated by the old woman before the mother has seen it.

Throughout this description, we can see the importance that is attached to rituals that protect the pregnant mother and newborn from evil spirits. The old woman plays an active role in the performance of these rituals and in insuring good health for the child. These are tremendous psychological factors which must be overcome when a woman goes to a modern maternity to deliver.

#### 3.4.2 Training Trends

Since the administrative reform in Senegal, decisions are made by each rural community concerning economic and social development. Therefore, the policy toward training TBAs varies from one community to another and from one department to another.

There are three basic trends that exist:

- to train only TBAs to work on the village level or in rural maternities;
- to train only auxiliary midwives to work in rural maternities;
- to train both TBAs and auxiliary midwives who may or may not work together at rural maternities.

Auxiliary midwives are typically young, literate girls who have had no previous experience in doing deliveries. Their training ranges from three to six months.

Pellegrin (1970), as a result of a small survey of 22 midwives in Senegal, proposed that TBAs eventually be phased out at all levels. She recommended that this be accomplished

by short, medium and long-term objectives:

Short-term

- train TBAs
- reorient the training of midwives
- retrain midwives
- teamwork

Medium-term

- train auxiliary midwives
- create delivery units

Long-term

- build rural maternities
- train midwives as "supervisors".

Pellegrin said that obviously phasing out practicing TBAs will not happen tomorrow. In industrial countries, the "TBA" disappeared as medical science progressed; the same holds true for Africa. She feels that as social change progresses, training TBAs is a logical, short-term step to take, considering the shortage of trained midwives and the available supply of TBAs. The training of midwives needs to be reoriented toward the rural population and public health instead of limiting their role only to obstetrics. All midwives should participate in retraining sessions. In addition, midwives should make an attempt to work closely with rural health posts and personnel.

Medium solutions include training young rural girls to act as auxiliary midwives who will work at rural health posts. At this stage, it will be necessary to provide two rooms for her work: one for delivery and another for hospitalization.

In the long run, rural maternities should be built by rural communities for the auxiliary midwives. There should

be two midwives at each health center which would insure adequate supervision of auxiliary personnel.

### 3.5. Training TBAs

During the era of colonisation, TBAs were trained for one week by the midwife and nurse of the health center. However, due to the lack of supervision and retraining programs, the TBA gradually returned to her traditional practices (1). Various attempts are now being made to retrain TBAs in Senegal. Exact figures are not available on the extent of training.

The researcher found that 50 TBAs have been trained at the Babak Catholic Mission in the region of Thiès. They are furnished with medical supplies and return to the Mission once every two months on Saturday to replenish supplies and to undergo more training. UNICEF reported that it had given training stipends to a total of 107 TBAs in the Sine-Saloum region as of 1976. In addition, UNICEF had provided stipends for 195 TBAs in the Thiès region. UNICEF stipends were increased from 5,000 CFA to 9,000 CFA per month for three months (personal communication: Mr. Samaké, UNICEF).

#### Total Known Trained TBAs, Senegal, 1976

<u>Region</u>	<u>Number of TBAs trained</u>
<u>Thiès region</u>	
UNICEF stipends	195
Bahak Catholic Mission	<u>50</u>
Sub-total	245
<u>Sine-Saloum region</u>	
UNICEF stipends:	
- Fatick	11
- Foundiougne	11
- Nioro	23
- Kaffrine	17
- Gossas	30
- Kaolack	<u>15</u>
Sub-total	<u>107</u>
Grand Total	<u><u>352</u></u>

### 3.5.1 Khombole Training Program

A major training program has been in existence for eighteen years at the Khombole medical center, in the Thiès region. At Khombole, under the direction of Dr. Coly, and Miss Koate, Social Assistant, TBAs are trained with the hopes of reducing infant mortality and eliminating tetanus of the umbilical cord. Village collectives choose TBAs who are from 35-45 old, experienced in childbirth and respected by the community.

Training was originally for one week only, but realising that this was insufficient, the period was increased to 15 days. Retraining is undertaken periodically. Training is essentially practical and includes teaching hygienic rules and notions about sanitation, nutrition and childcare. UNICEF contributes stipends for each TBA and UNICEF midwifery kits. Supervision is carried out by a health team. It is difficult to supervise all 195 TBAs due to lack of personnel and financial means. However, it is felt that the training program of the health center has succeeded in lowering tetanus and infant mortality in regularly supervised villages (9). The rate of neo-natal mortality, that is one month after birth, fell from 70 per thousand to 35 per thousand by suppressing tetanus only (2).

### 3.5.2 Rural Maternities

The first attempts to build rural maternities in 1964 failed because the population did not understand the concept. It was only after an educational campaign in 1970 that they were a success.

In 1975, 23 rural maternities were planned but only 12 were functional in the region of Thiès (personal communication: Dr. Samaké, UNICEF). Two rural maternities visited are located at Touba Toul and N'Goudiane in the region of Thiès. Others

in the region are at N'Diakhou and Soune-Serere. TEAs only work at these rural maternities.

In 1973, 30 TBAs worked at Touba-Toul, six at N'Goudiane, 14 at N'Diakhou and four at Soune-Serere. Touba-Toul is by far the most important of these maternities. Built in 1973, its radius of action is eight km including 96 villages and 17,000 inhabitants. The maternity itself includes six large traditional or semi-traditional African huts which resemble the environment of a village community. This construction technique was preferred to a modern unit because of the lower cost and the psychological impact on the rural women. The construction is done by the village community and UNICEF provides equipment. The TBAs are directly supervised by a male nurse or midwife and indirectly by the doctor of the region or arrondissement. Every week midwives give prenatal examinations at the maternity.

Working in teams of three or four, the TBAs work 48 hour shifts. They are not employed by the government, rather are paid 350 CFA per delivery of which 50 CFA goes to the maternity. There are an average of 25 births a month. After dividing the income, the TBAs may get a maximum of 5,000 CFA every two months, often less. In order to increase their income, the TBAs at Touba-Toul have a collective field (2).

Fatou N'Gom has been a TBA for eleven years and has been working at the Touba-Toul maternity for four years. She is 60 years old. Her training included three sessions of four days, ten days and two months respectively. She combines harmless traditional practices with modern techniques which reassures her patients. For example, drinking traditional medicines is forbidden, but those applied to the skin are not. After the delivery, the TBA buries the placenta in the traditional way, in this case, it has to be in the right position so the woman does not become sterile. When asked what she would

like to see in the future, she responded she would like to earn more money and to have a bigger more modern maternity with running water.

### 3.6 Rural Auxiliary Midwives

In Kaolack, Dr. N'Diaye, Regional Health Director of Sine-Saloum, is training rural auxiliary midwives (auxiliaires accoucheuses) to replace traditional birth attendants (matrones traditionnelles). WHO determined that 83 percent of women in the rural zone of Kaolack are afflicted with gynecological disorders and that four out of five children from the ages of 0-5 years suffer from various afflictions. Dr. N'Diaye feels that it is ineffective to train TEAs to help resolve this situation because a large number of rural women deliver with the help of relatives, not necessarily a trained TEA. In addition, TEAs are too old and too attached to traditions to assimilate modern techniques in the short time they are trained. They have a limited role to play in public health and should not be integrated into the modern health team (5). He adopted this approach after learning of training programs for rural auxiliary midwives in Togo.

#### 3.6.1 Training

In order to meet the needs of this vulnerable population, young, educated girls are chosen by the rural communities to follow a three month training program at the maternity and dispensary. Usually the girls have finished elementary school and a few have their BEPC<sup>1</sup>. They should be at least 20 years old. It is not necessary that they have experience in delivery. UNICEF provides stipends of 9,000 CFA per month for three months.

<sup>1</sup>. BECP is equivalent to 10 years of schooling.

At the Centre de la Santé de Kasnack in Kaolack, there has been two training sessions. The first one was from January to March 1976 during which 30 girls were trained. The second, from August to October 1976, trained 26 girls. The doctor and midwife are in charge of training.

The midwife reported that problems which occurred during the second training session include:

- too many girls, supervision during practical training is difficult (26 girls)
- the courses are too advanced for the educational level of the girls, they need to be simplified
- teaching methodology and audio-visuals need to be adapted to the level of students
- they have no auxiliary midwife manual to follow
- motivation is low to improve teaching because staff is not paid extra for the work.

Upon completion of training, the girls take a written and oral examination. They receive a certificate and an apron defining their rank after successful completion of the exam. Most girls pass.

In the first training program, four TEAs were trained with the auxiliary midwives. However, they have decided they would not accept anymore TEAs because they are too hard to train. Since they are illiterate they cannot follow the course work expected.

At the end of training, the auxiliary midwife should have sufficient theoretical and practical training which will enable her to do routine prenatal consultations, deliveries and medical surveillance of the mother and child (see Annex 4).

### 3.6.2 Activities.

Since this new experience has begun, it has been established that rural women readily accept that a young auxiliary midwife be responsible for their delivery. Also for the first time, a survey of pregnant women can be undertaken and PMI activities can take place at health posts. The health team at a health post should include a state nurse, one sanitary agent, one auxiliary midwife and one laborer. Efficient evacuations are possible and recommended after 3 to 10 hours of labor (6).

The auxiliary midwife may also work alone at a rural maternity built by the rural community. I visited two unsupervised auxiliary matrons in the arrondissement of Kaoun, Kaolack department. The first girl was 27 years old and has been doing deliveries for five years at a rural maternity. Basic activities include deliveries and first-aid. Responsible for seven villages, she delivers an average of 16 babies per month. She has her own horse and cart for evacuations to Kaolack which takes two hours. Her major problems are payment, replenishment of medicines, and lack of supervision. Each delivery costs 500 CFA but she said she is rarely paid. Recently widowed, her financial position is difficult. She goes once a month to Kaolack but her supervisor does not visit her maternity.

The situation of the other unsupervised auxiliary midwife was pretty much the same. Various sources said that some common problems of young auxiliary midwives are: (1) acceptance by the rural traditional society, (2) some girls are selected because they are the daughters of chiefs or notables, (3) villagers might not come to them unless they are officially assigned to their post by an important political figure, (4) they think they are professional midwives. Regardless of these drawbacks, the rural auxiliary midwives appeared to be devoted to their work and proud of their accomplishments.

### 3.7 Integrated TBAs

A few TBAs are integrated into health posts and rural maternities depending on the policy of the rural communities or departments.

#### 3.7.1 Mbadakhoun Rural Maternity

Three TBAs and two auxiliary midwives work at this maternity which serves 29 villages. The maternity includes six traditional huts. Tasks are divided between the TBA and young girls according to literacy demands. Village women prefer the TBAs to conduct the actual delivery while the auxiliaries keep records and run the P.I. activities. I was unable to observe the working relationship between the two groups which is necessary to draw relevant conclusions, however, it seemed that the maternity was functioning with few problems.

#### 3.7.2 Loul-Sessen Health Post

This health post is located in the department of Fatick. The staff consists of one sanitary agent, one TBA and one laborer. The TBA is 27, Serer, Catholic, speaks no French and a native of the area. She had been doing deliveries with her blind mother for 15 years before she followed a eight month TBA training course. Her mother is a charlatan<sup>2</sup> and reknown in the area. She occasionally assists her daughter at the dispensary (a maternity is being built).

Duties of the TBA include the following:

- normal deliveries both in the maternity and home deliveries;
- visits domiciles;

<sup>2</sup>: A charlatan is a traditional medicine man or woman who gives allusion to magic. They rarely have an extensive knowledge of pharmacopea, but they still use plants, often haphazardly (4).

- works with midwife during monthly prenatal consultations; conducts them herself when midwife is absent. This includes urine analysis, vaginal examinations (she uses gloves), and nutrition consultations;
- conducts consultations for 0-5 year olds;
- gives general first-aid to the population;
- keeps a UNICEF kit well supplied, she goes to Fatick to get new supplies.

The success of this TBA is directly related to the fact that she is well known and trusted by the community. An increasing number of women come to consult her. She is not paid for her work except for occasional gifts.

### 3.8 Summary

The Government of Senegal has not adopted a national policy concerning the role of TBAs in the modern health sector.

According to available 1976 estimates, more than 352 TBAs have been retrained in all of Senegal. Training programs vary according to the region, department and rural community. Some rural communities choose only TBAs to be trained; some choose a mixture of TBAs and young girls; while still others select only young, literate girls without experience, who will become the rural auxiliary midwife and gradually replace the TBA.

TBAs are successfully integrated into rural maternities. For example, at Touba-Toul rural maternity near Khombole medical center, around 30 TBAs work rotating 48 hour shifts. They work under the direct supervision of a state nurse at a nearby health post. Major activities include normal deliveries, postnatal care for mothers and babies, and nutrition consultations. This approach, however, has been limited to the Thiès region and has not been

duplicated in other regions of the country. TBAs who do not work within the structure of a rural maternity usually work at village level where they are irregularly supervised.

At Kaolack, Sine-Saloum region, health officials feel that it would be better to phase out TBAs and to replace them with young, literate auxiliary midwives. They feel that training TBAs does not solve the health problems of the rural mother and child and that they are too old and too attached to traditional customs to assimilate new techniques. In some areas, home deliveries are against the law of the rural community and a fine is imposed on the TBA. In some cases, it is difficult for the young auxiliaries to be fully accepted by rural traditional women.

As a compromise, some areas are training both TBAs and auxiliary midwives to avoid a brutal break with tradition and to insure a gradual social change. They may work together as a team at rural maternities with tasks divided according to literacy demands or they may work separately. At rural maternities their roles are complementary. Research indicates that TBAs typically combine traditional practices with modern techniques. Her age, experience and knowledge of village customs reassure her clients. Therefore, the old women conduct the deliveries because they are more acceptable than young girls, and the literate auxiliary takes responsibility for record keeping, weighing babies, prenatal surveys and other administrative duties requiring literacy. The alternative WHO/Senegal favors is to train auxiliary midwives to work at the rural maternities and to train TBAs to work at the village level.

A major question to be resolved in Senegal is: "Is it better to train TBAs or auxiliary midwives". A comparative study to determine the socio-psychological impact and the cost-effectiveness of training programs is of major importance to guide future policy decisions.

## 4. MALI

### 4.1 Demographic Profile

Covering 1,204,000 km<sup>2</sup>, Mali is characterized by three distinctive geographic zones. First, the desert zone which includes a part of the Sahara desert. Second, the Sahelian zone characterized by savannas and a moderate annual rainfall. Third, the Sudanian zone where rainfall is most favorable.

In 1975, the population was estimated to be 5,697,000. The average density of 4.4 inhabitants per km<sup>2</sup> ranges from 13.9 inhabitants per km<sup>2</sup> in the Segou region to 0.8 inhabitants per km<sup>2</sup> in the Gao region. The crude birth rate was estimated at 49.4 per thousand while the crude death rate at 24.0 per thousand with an annual growth rate at 2.5 percent. The population under 20 years represents 59.8 percent of the total population. The female population between 15 and 49 years (child bearing years) represents 44.2 percent of the total female population. Mali is an essentially rural country with the rural population in 1975 totaling 86.6 percent. Infant mortality in rural areas has been estimated at more than 200 per thousand (4).

The country is divided into six regions (Kayes, Bamako, Sikasso, Segou, Mopti, Gao) and 42 circles which are subdivided into 286 arrondissements (7, 10).

### 4.2 Health Resources

The distribution of health resources favors urban areas. Health personnel included the following in 1974 (4):

	Doctors	137
	Midwives	201
	State Nurses	466
	First Cycle Nurses	1,254
	Auxiliary Nurses	946
	Matrons <sup>1</sup>	178

<sup>1</sup>. A matron in Mali is a young girl with at least six years of education who is trained six months to one year.

More than half of the total number of doctors and midwives are working in the Bamako region.

A doctor or state nurse directs a medical circumscription in each of the 42 existing circles. There is a rural dispensary at the arrondissement level. Twenty out of 286 arrondissements have a maternity which include MCH activities<sup>2</sup>. At the village level, there is rarely a fixed health center. Some villages have a rural maternity built by the population and run by matrons (auxiliary midwives).

#### 4.3 Rural Matrons

An estimated 30 to 90 percent of the female population deliver outside of medical facilities. Percentages of controlled deliveries in 1972 are shown in the following chart.

Registered Deliveries in 1972, Mali

Region	Number of inhabitants	Number of births registered	Number of estimated births	Percentage of controlled births
Kayes	742,586	4,313	40,000	10.8
Bamako	964,330	15,753	53,000	29.7
Sikasso	954,002	8,863	52,000	17.0
Sagou	785,647	4,589	43,000	10.6
Mopti	1,106,185	9,226	61,000	15.1
Gao	634,249	2,786	35,000	7.9

Source: Dr. P.G. Jean-Joseph, WHO Mission Report (AFR/MCH/70), 1976.

Faced with inadequate coverage of modern health services for childbirth in rural areas, Malian health officials opted to train rural matrons or auxiliary midwives. In 1967, a training program for 50 rural matrons, supported financially by UNICEF,

<sup>2</sup>. In Mali, MCH is equal to Santé maternelle et infantile (SMI).

was approved. During 1969-1970, UNICEF supported the training of 85 rural matrons. UNICEF provided 5,000 MF (Malian francs) for each trainee per month. Rural matrons must have six years education. They are trained from six months to a year after which they are installed in the chiefs-lieux and large villages of arrondissements. In 1974, there was one rural matron per 30,000 inhabitants. Today, they are being trained in all regions except Gao. The region of Mopti has recently trained 10 rural matrons (personal communication: Dr. Sory Ibrahime Kaba).

A training program was elaborated by the National Direction of Health and communicated to regional directors so that they could adopt it to local conditions. The principal guides of this program are the following:

- (1) to give practical training
- (2) to put emphasis on the necessity of maternal and infantile protection in the rural milieu
- (3) to teach basic hygiene principles
- (4) to give nutrition demonstrations
- (5) to try to change bad nutritional practices which contribute to malnutrition during weaning
- (6) to teach practical obstetrics
- (7) to assign matrons near a dispensary run by a state nurse
- (8) to develop in the trainees a sense of responsibility to care for their equipment.

WHO has been contributing to the rural matron program by preparing training guides and educational objectives (8).

#### 4.4 Traditional Birth Attendants

Traditionally, each village has one or two TBAs who are chosen by the village community. The TBA must be post-menopausal. The profession is passed from mother to daughter and

is highly respected. During delivery, the woman lays on her back. Traditional medicines are used to insure a smooth delivery. The umbilical cord is covered with "beurre de karité" and a peanut mixture. Tetanus is a problem. In case of retention of placenta, the TBA provokes coughing, presses on the stomach, or administers traditional medicines. Traditional payment on the day of the baptism is typically a chicken or leg of lamb.

In the early 1960's, there were several attempts to train TBAs in Bamako. Since then, however, the Government has decided not to encourage the practice of TBAs and has been trying to replace them with rural matrons.

It is recognized that old TBAs are very adapt. However, reasons given by Dr. Samba, Médecin-Coordinateur de la Région de Bamako, for not training TBAs are:

- the old women themselves do not see any need to be trained
- nowhere has the training of TBAs been successful
- the TBA refuses to give out certain information in the village
- they are illiterate and too old, therefore, cannot keep statistics.

The Government recognizes that TBAs do exist but not that they can make much of a contribution to modern health services. They would like the rural matron to work together with and to supervise the TBAs. However, more often than not, the TBA refuses. The problem has not been resolved.

In spite of this negative attitude towards training TBAs, several regions have nevertheless trained them: Kayes has trained two; Bamako has trained eight; and Segou has trained the greatest number of all including 22 TBAs and 75 community development TBAs(5). This makes a total of 107 trained TBAs in Mali.

Rural Maternities, Rural Matrons  
and TBAs; Mali, 1976

Region	Rural Maternities	Rural Matrons	TBA	TBA Community Development
Kayes	15	17	2	-
Sikasso	109	93 <sup>3</sup>	-	-
Bamako	110	74	8	-
Segou	21	11	22	75 <sup>4</sup>
Mopti	-	10	-	-
Total	255	205	32	75

Source: WHO/Bamako

#### 4.5 Ouelesseboucou Training Center

In the region of Bamako, there are three training centers for rural matrons: Ouelesseboucou, Kolokani and Koulikoro. In 1975, 74 matrons had been trained (personal communication: WHO/Bamako).

##### 4.5.1 Rural Matrons

Training of rural matrons at Ouelesseboucou began in 1974. Since then, there have been three training programs and one refresher course given. Training takes place at a very modern maternity/dispensary/social center complex. Originally, it was built by the Catholic Mission.

In summer 1976 there were 33 girls in training. Training lasts for ten months. Course work includes obstetrics, nutrition, childcare, literacy, medicine, accounting, civics, administration and professional morality.

3. Sikasso reported to the researcher that they had trained 132 rural matrons (see 4.6.2).

4. Operation Riz reported to the researcher a total of 99 (see 4.7.1).

5. Operation Riz reported to the researcher a total of 99 (see 4.7.1).

Teachers include two midwives, one social assistant, one nurse, one accountant, a literacy agent and civil service agent which totals seven different teachers.

Rural matrons are chosen according to the following criteria:

- chosen by villages
- must return to rural maternity upon completion of training
- must pass entrance examination
- literate in French (7ème année fondamentale - 5ème française)
- unmarried (because most husbands would not let their wives go for the 10 month training program)
- ages range from 16 to 23
- cannot come from the city of Bamako
- if girls are pregnant they are not accepted.

Upon completion of final examination, the matrons receive a midwifery kit from UNICEF and a monthly salary of 20,000 MF (10,000 CFA) from the rural collective.

Mr. Togo, Director of the training center, cited various problems he has encountered. First, there is not enough personnel to serve both as teaching staff and as regular health staff. When a nurse gives courses, there should be someone to run the dispensary. Second, the matrons do not get a stipend during training to pay for food and lodging. Some girls are very poor, therefore, must go without food. Finally, medical supplies should be provided for the matrons to use during training.

#### 4.5.2 Integrated TBAs

Four TBAs who were trained six months in Bamako in the early 1960's are now integrated into the Ouelessebouougou maternity center. The TBAs work 24 hour shifts. Their activities include deliveries, supervision of maternity and younger rural matrons when

the midwife is not there, urine analysis, and care of mother and child after birth. They are paid 500 MF per delivery. The total is divided at the end of the month giving each of them from 10,000 MF to 15,000 MF. The TEA is an important part of the health team and village women frequently will not accept a young girl conducting their delivery. However, they are afraid that one day they will be replaced by the younger matrons and lose their jobs.

#### 4.6 Sikasso Region

Since 1970, Dr. Diallo, Regional Health Director of Sikasso, has been training rural matrons and encouraging the population to build rural maternities. His efforts represent considerable progress in providing primary health services for the rural population.

##### 4.6.1 Rural Maternities

To date, there are 110 finished maternities of which 89 are functioning. After extensive education of the rural population and discussions about their major health problems, the rural collectives enthusiastically contributed their support to the project.

The maternities are built of cement or part cement and each costs around 3,500,000 Malian francs. The zone of control of a rural maternity is estimated at five kms and serves about six to ten villages with a population totaling 4,000 to 7,000 inhabitants(1).

The success of the building of rural maternities in Sikasso has been contributed to receptivity of the population, relatively high economic level of the region, co-operation between the rural masses of the region, and the dynamism of technical and administrative officials of the region (7).

#### 4.6.2 Rural Matrons

The region of Sikasso has trained 132 rural matrons since 1970. Girls are chosen by the village who are literate and who will return to work in their village. The trend now is to choose older married women (age 25-35) because they will not abandon their post as readily as will younger unmarried woman (age 16-22).

Training is for six months at the Sikasso maternity, PMI and hospital. The teaching staff includes a midwife, a doctor and nurses. Training is mostly practical, with two hours of theory each day.

Activities of the rural matrons include:

- maternal and child protection (prenatal consultations, delivery, postnatal consultations, nutrition consultations);
- first-aid for students and the rest of the population;
- distribution of anti-malarial pills;
- birth registration.

Deliveries at rural maternities range from 5 to 25 monthly.

Since the matrons have been working, the number of controlled births in the region has risen from 6,500 in 1970 to 17,743 in 1975 (1). Matrons receive a monthly salary of 3,500 MF assured by combining the cost of each delivery (300 MF) with profits from selling pharmaceutical products (2). They are paid by the rural collectives (les groupements ruraux), by the "fédérations primaires" or rarely by the regional budget. They are supervised by state nurses at the nearest dispensary.

Training young matrons has posed certain problems for the community:

- (1) if unmarried, they may abandon their post to follow their husband;
- (2) young matrons have difficulties in being accepted to do home deliveries when there is a TBA involved;
- (3) if the matrons are from the same village as their clients, many women will refuse to give birth aided by their "daughters". However, in maternities the work of the rural matrons is more acceptable;
- (4) payment depends on the prosperity of the "fédérations primaires".

In order to discourage home deliveries by TBAs, some areas have imposed fines of 1,000 MF on the TBA and her client.

#### 4.6.3 Place of TBAs

TBAs are not yet integrated into the rural health system in Sikasso. However, Dr. Diallo feels that in the future, it would be desirable to do so.

Given the present situation, total coverage has not been achieved. The rural matron can only cover a radius of five kms. Because of the heavy financial cost, it is not feasible to build more rural maternities. However, because of the existing infrastructure of 110 rural maternities, this permits training and regular supervision of TBAs who should be designated by the villages themselves; should follow a two month training session; and should undergo retraining for two weeks every year.

Each TBA would be supervised by a rural matron which could pose problem. Dr. Diallo feels it is better to try to integrate TBAs slowly until they are used to the idea of rural matrons and maternities. If progress is too fast, there will be conflict between the traditional social system and the modern health sector. The health officials are fearful that once a TBA is trained she will demand a salary. Hopefully,

they will continue to work according to the traditional system of payment.

#### 4.7 Operation Riz, Segou

"Operation Riz" is a rice development project financed by FED<sup>5</sup>. A social action program has been integrated into the project which is financed by UNICEF and FED. Five community centers have been built. The objective of establishing the centers is to encourage in village communities a collective mentality open to progress and change which will permit the development of women and contribute to the efficiency of agriculture production. Since 1973 community development activities have been expanded to include 46 villages in 1976. At the village level, three categories of volunteer animatrices are trained: (1) animatrice de santé, (2) nutritionniste, and (3) matrone traditionnelle (TBA).

##### 4.7.1 Matrone traditionnelle (TBA)

Two TBAs are chosen by villagers. One should be an older experienced TBA, the other should be a middle-aged village woman, not necessarily experienced with deliveries. They undergo four to five day theoretical training at the community development center. After that, they are sent to the nearest maternity for one to two weeks training. During training, lodging and meals are paid by Operation Riz for those who have had to travel from their village. TBAs are given five to eight day refresher courses once every year. So far, there have been two refresher courses given.

During training a "Guide To Care of Newborns in the Rural Areas" is used. This was prepared by a World Health Organization Nurse/Midwife, Miss Mitchell (6). Contents of this Guide include nine lessons (see Annex 5):

- (1) the first cry of baby
- (2) the baby opens his eyes for the first time

<sup>5</sup> FED - European Development Fund

- (3) preparation of thread ties for the umbilical cord
- (4) tying and cutting the cord
- (5) the first bath of baby
- (6) bandaging the cord
- (7) nursing baby for the first time
- (8) discussion on traditional practices
- (9) care for newborns in the rural areas.

Training TBAs was undertaken to improve the hygienic conditions during home deliveries, to make up for the lack of maternities, to diminish the infant mortality rate and to gather statistics. The role of TBAs at the village level include:

- making regular contacts with pregnant women, including participation with the community development team who gives prenatal consultations in villages every 15 days;
- applying hygienic standards during childbirth and to call for a doctor in case of emergency;
- taking care of the mother and baby until the day of the baptism (about one week).

There has been no change from the traditional payment system which includes traditional gifts (leg of lamb, cola, nuts, soap, millet), and a money payment of 200 to 500 MF from the father which assures replenishment of medical supplies for the UNICEF midwifery kit.

TBAs are supervised by the community development team once every 15 days. In this way births are registered regularly and birth certificates are distributed.

Operation Riz TBAs, Mali, 1974/1976

Year	Total TBAs trained per year	Total yearly deliveries
1974	26	496
1975	49	477
1976	24	1,265
Total	99	2,238

Source: Rapport de Synthèse, Campagne Agricole 1975-1976, Opération Riz, Ségou

As can be seen from the chart above, trained TBAs are increasing their coverage of rural deliveries. Reportedly, they are well accepted by the population and enjoy added prestige because of their training. It seems to be a successful program. One person commented that "women in the villages prefer to go to 'Operation Riz TBAs' rather than the rural matrons trained by the fédérations primaires".

#### 4.8 Summary

In Mali, there are various regional approaches to the problem of rural obstetrics:

In the region of Bamako, young (16-23 years), literate, unmarried rural matrons are trained for 10 months at three training centers. They are assigned to work in rural areas. Only eight TBAs were trained in the early 1960's and these have been integrated into the modern health system. However, the health officials are presently against training more TBAs.

The region of Sikasso has made progress toward providing basic health care for pregnant women and newborns by building 110 rural maternities and training 132 rural matrons. Because of the high rate of abandonment by younger unmarried girls, the health officials now prefer to train middle-aged married women (25-35 years). No TBAs have yet been integrated into the rural maternity system because of the conflict between traditional practices and modern practices. However, it is hoped that in the future TBAs can be trained for two months to serve on a voluntary basis in isolated areas that a rural matron does not reach.

A rural development project for improving rice production in Segou includes social action programs based on community development centers. "Operation Riz" has trained 99 TBAs who have delivered a total of 2,238 newborns since 1974. Two TBAs are chosen to be trained: one is an older experienced TBA, and the other a middle-aged woman, experienced or not. The training

program is two weeks long and advocates close adherence to traditional customs, excluding harmful practices.

What is striking in Mali is the conflict between traditional birth attendants and young rural matrons. Often the first enemy of the rural matron is the TBA. Because of their youth and lack of experience, it is difficult to integrate matrons into the traditional village social structure.

Criticism of the training of rural matrons on the national level includes:

- matrons become discouraged because they are not regularly inspected, supervised and paid;
- there is no coherent policy or administration regulating the training and payment of rural matrons due to the lack of co-ordination and planning;
- they should be freely integrated into health services as civil servants.

Ideally, the TBA and rural matron should work together; the rural matron at the maternity and the TBA at the village level. Training TBAs would help remove barriers of understanding between the traditional system and threatening modern health system. However, the major question is "Would TBAs accept to continue working as volunteers?". With this as a fear and with the general negative attitude and lack of directives on the national level most TBAs, except for those trained by "Opération Riz" and a few others, continue to work in the traditional way, ignored by health authorities.

April-May 2000

## 5. NIGER

### 5.1 Demographic Profile

The Republic of Niger is 1,287,000 km<sup>2</sup> with a population of 4,592,000. Population density ranges from 0.1 per km<sup>2</sup> in Agadez to 17 per km<sup>2</sup> in Dosso, with all of Niger averaging four persons per km<sup>2</sup> (1975). 9.5 percent of the population lives in urban areas. Four cities: Niamey, Zinder, Maradi and Tahoua, have a population of more than 20,000. Niger is predominantly a country of small villages with a rural population of 90.5 percent.

Four-fifths of Niger are arid desert. The North is largely mountainous or desert, therefore, 90 percent of the people are concentrated in a narrow band along the Southern border where the Niger river flows.

The two largest ethnic groups are the Hausas (50 percent) and the Djerma-Songhai (23 percent). The nomad or semi-nomadic peoples, Peulh, Tuareg and Toubous, total around 20 percent of the population. The Muslim religion predominates with some traditional animists and Christians.

Infant mortality is estimated at 200 per thousand live births (1974). In spite of this more than 45 percent of the population is under 15 years of age. Population growth rate equals 2.76 percent per year with a crude birth rate of 51.7 per thousand and a crude death rate at 24.1 per thousand.

Administrative divisions include: seven departments (Agadez, Diffa, Dosso, Maradi, Niamey, Tahoua, Zinder). There are 37 arrondissements, five municipalities (Niamey, Zinder, Maradi, Tahoua, Douchi), 127 cantons and more than 9,000 villages.

### 5.2 Health Resources

Given the dispersion of the population, Niger has been confronted with the problem of providing adequate health facilities and personnel for total coverage of the population.

### 5.2.1 Personnel and Facilities

In 1974, health personnel included:

Doctors	109	(including 34 nationals)
Midwives	50	
State nurses	200	
Certified nurses	547	
Auxiliary nurses	87	

Source: WHO/Niamey.

The health resources of the country are distributed unevenly, favoring the urban population. Each department has one major medical center. Rural dispensaries number 142 government and eight private which serve more than 9,000 villages. In 1975, out of 33 maternities, 16 were without a midwife. Out of 46 national midwives, 39 worked in PMI centers and maternities in urban areas(7).

### 5.2.2 Maternal and Child Health Centers

Out of ten newborns, only four will reach the age of five years. In order to combat infant mortality, the high morbidity rate, and malnutrition, the Government has been promoting MCH centers. Seventeen MCH centers exist. The majority are located in urban areas, however, an attempt is being made to integrate MCH activities into maternities and rural dispensaries. So far MCH services have been integrated into all 33 government maternities and 73 rural dispensaries(9). However, preventive medicine offered by the MCH centers is slowly accepted by the population (18).

### 5.3 Village Health Teams

Realistically facing the actual health situation in Niger, the Ministry of Health has taken steps to expand health coverage by creating "Equipes de Santé Villageoises" (E.S.V.), or village health teams.

### 5.3.1 Policy of Mass Medicine

Politically speaking, the Government is following the principle of providing medicine for the masses. The triennial plan (1976-1978) states that "accent will be put on the development of a true mass medicine, which will be essentially preventive and mobile". Two objectives included in this policy concerning village health teams are:

- continuing training and supervision of first-aid agents, sanitation agents and traditional birth attendants of villages, as well as the implantation of village pharmacies;
- maintaining the "volunteer" system(4).

### 5.3.2 Animation and Health

In October 1962, the Nigerian Government created the Service of Animation(1). The objective of rural animation is to educate and encourage the population to take responsibility for their own development. With the collaboration of animation and health, different skills were combined which facilitated the implantation of village health teams. Belloncle and Fournier (1975) outlined definite tasks for animation and health:

#### Animation

- to educate the population to their health, hygiene and nutrition problems;
- to choose with villagers the best candidates for training;
- to contribute to training programs (control learning assimilation and prepare for return to village);
- to make periodical evaluations at the village level to understand villagers' reactions and to improve activities.

#### Health

- to execute technical training;

- to replenish village pharmacies and TBA kits and to supervise regularly the first-aid agents and TBAs;
- periodical evaluations of health elements.

### 5.3.3 Structure/Auto-encadrement Sanitaire

The project of village health teams is based on one principle: that the population takes responsibility for its own health. The goal of this auto-encadrement sanitaire is to improve the sanitary level of the country by training village health teams of which the tasks are educational, preventive, curative and administrative<sup>1</sup>. The village health teams are composed of a president, a secretary-treasurer, first-aid agents and traditional birth attendants. Duties of each team member are:

#### The President

- supervise and co-ordinate health activities of the village;
- encourage first-aid agents and TBAs to execute preventive and curative actions;
- assist with operations between the first-aid agents and the Secretary-treasurer.

#### The Secretary-treasurer

- be in charge of medicines for which a price is fixed and of the money of the village pharmacy;
- distribute medicines to first-aid agents after receiving money;
- buy medicines at the central pharmacy to replenish stock<sup>2</sup>;
- keep a record of transactions.

1. At the Second Health Conference (Deuxième Journée de la Santé) held at Tahoua from July 5-13, the policy and structure of village health teams were outlined. Participating in this Conference were 75 delegates from the Ministry of Public Health and Social Affairs, Ministry of Plan and Ministry of National Education. Most of the following information on village health teams in Niger is based on conclusions from this Conference.

2. The first supply is free. Replenishment is done at Government pharmacies which provide medicines at low cost.

The first-aid agent

a) educative and curative action

- improve personal hygiene
- improve hygiene of the environment
- warn the nurse in case of epidemics
- antimalarial campaign
- nutrition education
- keep pharmacy box clean

b) curative action

- clean sores
- distribute simple medicines according to symptoms
- evaluate the seriousness of a illness in order to recommend evacuation to the nearest dispensary

c) administrative action

- register activities, medical supplies received and distributed and hygienic improvements
- keep up on replenishment of medical supplies
- act as liaison between village members of the health team and nurse at nearest dispensary.

5.4 Traditional Birth Attendants<sup>3</sup>

5.4.1 Selection of Village

Villages chosen to participate in the E.S.V. project must have reached a certain level of development and awareness of their problems. The largest villages are chosen within a radius of 15-20 kms from a dispensary. Dispensaries are in charge of supervising an average of 15 villages. Priority goes to villages that have a school. Selection is made after collaboration with administrative authorities, traditional leaders and representatives of relevant agencies.

5.4.2 Study of Environment

Information should be gathered to determine zone of implantation. Surveys should be made at the village and professional level to determine customs, beliefs and practices surrounding

<sup>3</sup> Much of the information in this section also applies for the first-aid agents.

childbirth. Nutritional practices and sanitation of the village should be included. Following this preliminary study, education of the population can begin, followed by choice of TBAs.

#### 5.4.3 Selection criteria

One to three TBAs may be chosen in each village. She should be a practicing TBA, physically capable, literate, if possible, permanently in the village and should have the confidence of the population. In addition, she should be a volunteer, chosen by the village. Payment is according to village customs.

#### 5.4.4 Training

Training programs vary from one region to another, however all programs have common features. Training occurs during the dry season from November to May. A maximum of 10 TBAs are recommended for each 10-15 day session at the local dispensary or maternity. Training is done by midwives, if available, nurses of the dispensary and members of animation. Peace Corps Volunteers also participate, usually teaching hygiene and nutrition. Training sessions should be permanently fixed each year in case of abandonment by TBAs.

Since teaching methodology for adult literates is generally lacking by the staff, a general guideline describing methodology and course content is presently being prepared (see Annex 6). This is not to be imposed on the population rather to serve as a general guide.

Depending upon the results of the environmental study, training programs usually include the following topics:

- general notions of hygiene
- hygiene of the pregnant woman
- notions of genital anatomy
- normal pregnancy and normal delivery
- complications of pregnancy, hemorrhage, oedema and parasites

- care of newborn
- maternal milk and cow milk
- demonstration of baby foods
- use of birth registry.

At the end of each training session, a UNICEF kit or locally fabricated kit is given to the TBA.

#### 5.4.5 Supervision

Supervision is usually carried out by a mobile team consisting of health, animation, and literacy team members. Villages should not exceed 10-15 kms from the dispensary for supervision reasons. Control should take place once or twice a month. Every two months, the head of the medical center with animation and literacy agents should discuss with the population difficulties encountered, replenish and check midwifery kits (village pharmacy also), check the birth registry in order to get birth certificates and control and improve techniques used by the TBA. Moral support from the supervision team is important.

#### 5.4.6 Retraining

Retraining at least once every two years is important. Old information should be reviewed and new information progressively added on. Retraining is done essentially by the same system as training for about ten days.

#### 5.4.7 Evaluation

Annual evaluations by health, animation and literacy agents should be held to evaluate the impact of the program, problems and necessary changes. At the village level, evaluative meetings are held with village chiefs, TBAs themselves and finally the village women.

#### 5.4.8 Training for nomads

The strategy is different, but the principles remain the same. Education of the nomad population is difficult due to the character of the nomads and their life style. Training

should be held during the periods when nomads gather together. In order to replenish medical supplies, an identity card may be issued to permit replenishment in any territory. Perhaps giving free medical supplies will encourage the program until such time that the nomadic population realizes its benefits. The big problem is supervision and the solution depends on available resources and ingenuity.

#### 5.4.9 In Urban Areas

TBAs and "femmes-relais" should work together in their section of town. The TBA can survey the number of pregnant women, give advice, encourage them to go to prenatal consultations, accompany women to the maternity to deliver and follow the newborn after delivery.

A "femme-relais" is more concerned with nutrition and health education. She may survey children from 0-3 years, assure preparation of baby foods at domiciles, give advice and encourage women to go to the PMI.

#### 5.4.10 Participation in PMI Activities, Vaccination Campaigns and Anti-malarial Campaigns

At the village level, TBAs should survey all pregnant women and prepare a list for the supervisory team. She should watch out for oedemas and high risk pregnancies. When necessary and possible, the TBA should encourage the village women to take advantage of prenatal and postnatal services offered at a nearby dispensary. Presently, there are 18 TBAs who are integrated into PMI/maternity centers in Niger (7). Some are paid a small salary, others are volunteers who have hopes of eventually being paid. For example in Oullam, there are two TBAs working at the maternity/dispensary. One receives 5,000 CFA per month, the other is a volunteer.

TBAs may also play an active role during vaccination campaigns and anti-malarial campaigns at the village level. All pregnant women should take antimalaria tablets from the fifth month on to reduce fetal and neonatal mortality.

### 5.5 Financing

Village health team training programs - including TBAs, first-aid workers and the president and secretary-treasurer - were in the past financed by arrondissement budgets and contributing agencies such as UNICEF and Groupe d'Association d'Aide des Eglises du Niger (Associated Church Group of Niger). However, the Government now wishes to centralize village health team training programs and finance training programs directly from the national budget in order to have more control. The cost of training varies according to department. Cost has been estimated at around 300,000 CFA for training at Maradi to around 500,000 CFA for initial training programs in the department of Niamey (personal communication: Mr. Amadou Boukary). Supplies for initial training programs are always more expensive. UNICEF provided 9,450 CFA per TBA for training a maximum of 130 TBAs (personal communication: Mr. Boubacar Issa Camara). Cost per matron was estimated to be from 4,620 CFA to 10,000 CFA. The total cost of training programs include overhead such as gas, petrol, lamp, food, teaching materials, daily allowance, etc.

### 5.6 1976 Survey of Village Health Teams

The total number of TBAs trained from 1965-1976 is 945. Including Tahoua, one can estimate that over 1,000 TBAs have been trained in Niger. Over 1,200 secourists have been trained. (see Annex 6B).

Trained Matrons (TBAs), Niger, 1965-1976

Department	Total trained	Villages without TBAs	Month - Year	
			Training	Retraining
Agadez	20	26	75-76	76
Diffa	31	33	76	-
Dosso	92	28	72-76	73-76
Maradi	416	67	66-76	71-76
Niamey	214	132	69-76	75-76
Tahoua <sup>4</sup>	-	-	-	-
Zinder	172	78 <sup>5</sup>	71-76	71-76
Total	945	364 <sup>5</sup>		

Source: WHO/Niamey

4. Report from Tahoua not completed at time of study.
5. The researcher questions the accuracy of this figure considering that there are 9,000 villages in Niger.

The Ministry estimates that about 1,500 villages or 15 percent of all 9,000 villages in the country are being covered by village health teams (18).

During the survey, ratings of good or mediocre are given by supervisory staff. 65-80 percent of the TBAs were rated as good. In Maradi, 394 out of 416 were rated as good workers (personal communication: WHO/Niger).

#### 5.7 The Department of Maradi

The department of Maradi first began training TBAs in 1966. Since then training programs have been duplicated in all departments throughout Niger.

##### 5.7.1 TBA Profile

During the preliminary study of customs and practices of TBAs (Haussas), it was found that they play a very passive and ritual role. The TBA intervenes only after the expulsion of the infant and placenta to cut the umbilical cord, bury the placenta and wash the baby. The cord may be cut with a stalk of millet or traditional knife. It is not tied. To heal the cord, a hot knife or piece of pottery may be applied to the end of the cord. The delivery takes place on the soil or on a piece of used cloth which is not washed until seven days after delivery - the day of the baptism. The woman delivers in a squatting position or on her knees with her heels against her perineum. In case of malformation of the head, the TBA will massage the skull to reshape it. Delivery is at the home of the mother.

The average age of TBAs is from 60 to 80 - menopausal women only. Traditionally, the profession is not necessarily hereditary, but often the old TBA chooses someone from her family who will replace her. Usually one principal TBA exists per village. Payment is according to custom. It may be millet, cola nuts, money, or the head, feet and skin of a lamb which was killed on the day of the baptism. Muslim rituals dictate the seventh day as the official day of the baptismal ceremony.

In the case of difficulties, the bokos (usually Peulhs) or marabout (Muslim religious leaders) are called to say prayers and perform rituals. Traditional medicines are used during prenatal, delivery and postnatal stages, always for difficult cases (1).

#### 5.7.1 Training goals

The goals of training are: to encourage TBAs to take a more active role before delivery; to improve hygienic standards and delivery techniques; to refer complicated cases to health centers; and to register the newborn. Later, the role of TEAs was expanded to include prenatal and postnatal activities such as:

Prenatal: (1) search for high risk women

- oedemas (prescribe salt-free diet)
- young women under 15 years
- small women, shorter than 1 50cm
- history of difficult deliveries

(2) survey and registry of all pregnant women in the village

(3) monthly home visits to detect high risk women.

Postnatal:

(1) demonstration of weaning baby foods

(2) detection of malnutrition by palpitation of the buttocks

- firm buttocks = healthy baby
- flabby buttocks = weight loss
- wasted buttocks = malnutrition

Malnutrition is a serious problem. In 1975, malnutrition for 0-1 year olds was 18.5 percent; for 1-2 year olds, it was 53.6 percent; and for 2-3 year olds, it was 63.6 percent (13). Therefore, TBAs are encouraged to play an active role at village level by participating in weighing babies when the health team comes to the village and by encouraging mothers to go to PMI days at the nearest dispensary if not too far.

In 1975, 381 trained TBAs reported to have participated in 3,732 deliveries out of an estimated total of 41,100 deliveries or approximately one out of ten. Deliveries in rural modern health facilities totalled 1,891 during this period. Total controlled deliveries including Maradi maternity (2,941) equaled 20 percent. In 1976, 462 trained TBAs served in 174 villages(9).

Improvements in hygienic conditions have been made. Some, but not all, of the TBAs play a more active role in prenatal and postnatal consultations as mentioned above. One indicator of progress is to determine if the TBA was called before or after delivery. Most TBAs are now called before, but some are still called only to cut the cord. Detrimental practices are gradually being changed. The TBAs know their limits and evacuate in time. In their villages, no tetanus cases have been reported and evacuations for perinual infections are rare(15).

#### 5.8 The Department of Niamey

Training of TBAs actually began in 1965, however, due to lack of motivation of personnel involved, activities were curtailed. Within the past few years training has been going full force with a total of 214 TBAs trained to date.

From personal interviews with 10 TBAs, health personnel, animation and various reports, the researcher found that the situation in the Niamey department was essentially the same as that of Maradi.

On the whole TBAs are successfully reintegrated into village life. Most of the TBAs feel they are more respected since their training, and some are called by other villages. In some arrondissements two TBAs have been trained per village. In others, Oullam for example, they decided to train only one TBA per village in order to avoid jealousies. A few TBAs are integrated into maternities and dispensaries, paid or volunteer. They assist with prenatal examinations and perform other simple

tasks. At Oullam, a TBA participates as a staff member during TBA training sessions. Refusals by villages to participate in training have been rare.

Some difficulties have been noted: (1) in Tillaberi, animation reported that in one area the trained TBAs are not called because the men say it is against their religion - only one birth was recorded during a three month period; (2) since it is the custom of women in the area (Djerma) to hide their pregnancy, fearing evil spirits, prenatal consultations have proved to be difficult; (3) postnatal activities are usually limited to care up to seven days after birth. The umbilical cord is bandaged regularly each day after birth, however, some mothers take off the bandage preferring to use their traditional healing methods. In one home I observed a baby who had mercurochrome on the umbilical cord, the bandage removed, and the mother was in the process of tapping the cord and other parts of the baby's body with heated sand wrapped in a small piece of cloth. This clearly shows the mixture of traditional and modern practices. Finally, it has been difficult to get TBAs to do baby food demonstrations. Some complain that they do not have time and that the village women do not follow their advice.

Some TBAs have expressed their desire to learn more and to expand their activities. For example, they would like to learn more about the causes of illnesses affecting pregnant women, children and nursing mothers. Also, some would like to be in charge of the village pharmacy to distribute relevant medicine to women and children<sup>6</sup>. This is especially true when there is no first-aid agent in the village.

Supervision of TBAs at village level is undertaken once every month or two months. At Oullam, a team of one midwife (expatriate), one auxiliary nurse (male) and one

<sup>6</sup> Given the character of Muslim women, it has been noticed that in some areas women do not like to consult the male first-aid agent.

animatrice, visits villages to replenish medical supplies and to control activities by filling out a supervisory and statistical chart (see Annex 6C). One important indicator included in this chart is whether the TBA is called before or after delivery. This determines the impact of training or changing traditional customs. At the arrondissement level, quarterly meetings are held with the head doctor of the department of Niamey, and members of animation and health. Departmental meetings are held yearly in Niamey with health, animation and literacy agents present.

#### 5.9 Common Problems

The departments of both Maradi and Niamey, plus others, share common problems.

Training. Some officials feel that the training period of 10-15 days is too short for adequate assimilation. This length has been established because of limited financial resources and family obligations of TBAs. Regardless of the short training period, the cost of training is high. Teaching methods used are not geared to teaching adult illiterates. Teaching staff has typically taught what they learned in school.

Age. If the TBAs are too old (60-80 years), this poses a problem. As an initial step it is necessary to appeal to the older TBA, however, in a second phase more desirable to replace them with younger (30-50 years) TBAs who can assimilate more easily.

Reintegration. Sometimes the TBA is chosen by the chief of the village rather than the village members. He may choose his wife, daughter, niece or other relative. In this case, other untrained TBAs continue to work and the trained TBA's activities are limited to one quarter or family. Contrarily, a trained TBA may become so popular that she will draw clientele, as well as gifts, away from other TBAs which provokes jealousy.

Supervision. Due to the shortage of personnel and material resources, supervision is irregular if not non-existent in some villages. Therefore, midwifery kits may not be regularly replenished. Morale of supervisory staff may be low because they are not paid for the extra work. Supervisory charts have been developed in order to gather more information and guide supervision. Supervisory staff should encourage rather than overly criticize TBAs.

Evacuations. Obstacles to efficient evacuations include inadequate recognition of risks and their seriousness, the lack of transport, and the influence of marabouts which could cause further delay. In addition, fatalism, the habit of accepting maternal and infant deaths, is a common characteristic of the Muslim society and the rural poor.

Expansion of activities. It is difficult to expand activities of the TBA to include preventive services such as prenatal and postnatal consultations. Getting TBAs to do baby food demonstrations to give advice on malnutrition and high risk women has progressed slowly<sup>7</sup>. Efforts to get TBAs to follow newborns more than the traditional seven days has not been successful.

Limited coverage. In spite of efforts to extend basic health care to pregnant women and newborns by training TBAs, a large part of the population remains far from any modern health service. In the department of Maradi, the most progressive department, out of 2,085 villages only 21 had a dispensary (12 percent of the population) and 174 villages had a village health team in 1976 (15).

Replicability of program. With centralization of the village health program and the continued politics of mass medicine, there still exist constraints on expansion. Manpower needs are increasing and development of the system is handicapped by lack of finance.

<sup>7</sup>. Baby food demonstrations in Maradi were done when free flour was provided.

5.10 SUMMARY

Niger has one of the most organized, best conceived, most realistic TBA training program in West Africa. Contributing factors to its success include (1) politics of "mass medicine" and total coverage of the population including training TBAs; (2) intersectorial approach including health, animation and literacy agents; (3) inclusion in the broader framework of village health teams which concentrates on an integrated primary health care approach.

Obstacles to its success are mainly due to shortage of personnel, financing, and material resources. However, experience has shown that training TBAs can improve rural obstetrics and help close the gap between modern health care and traditional practices.

The Nigerian Government wishes to expand the program. New foreseeable steps which will contribute to the efficiency of the program are training nomad TBAs, the study of traditional medicines now being carried on in Niger, and the possibility of creating mini-pharmacies for TBAs.

## 6. UPPER VOLTA

### 6.1 Demographic Profile

The population of Upper Volta was estimated in 1975 at 6 million inhabitants, distributed unevenly over an area of 274,000 km<sup>2</sup>. Overall population density is 22 inhabitants per km<sup>2</sup> and in certain localized areas, it reaches 100 per km<sup>2</sup>. In 1975, the crude birth rate per thousand was 47.9 percent with a crude death rate of 24.8 per thousand. The population growth is approximately two percent per year and the average family consists of 9.4 people. The population fluctuates according to the exodus of Voltaics to coastal towns of the Ivory Coast and Ghana in search of employment (10).

The population is composed of more than sixty different ethnic groups of which 48 percent are Mossi. Other major groups are the Peulh, Lobi-Dagari, Mandé and Bobo (1). Due to the unfavorable climatic and economic conditions of this landlocked country, the majority of the population is poor, depending on subsistence, family agriculture. More than 95 percent of the population is rural. Of 7,000 villages in the country, more than 5,000 are in complete isolation due to their geographic situation, their traditional organization or their lack of education. Great distances and bad roads separating urban centers and villages are obstacles to communication.

### 6.2 Health Resources

The actual situation in Upper Volta shows a disequilibrium between the health facilities and personnel in urban and rural areas.

#### 6.2.1 Health Facilities and Personnel

Health facilities do not cover the total population. Some villages are more than 40 kms from the closest health center. Health authorities estimate that only around ten percent of the total population is covered by existing health facilities (6). Due in part to the shortage of medical centers and in part to the

malnutrition and lack of general hygiene and ignorance, there is a high infant mortality rate.

In 1975, Upper Volta had 95 physicians (28 nationals), 31 midwives, 269 state nurses and 981 certified nurses. In 1976, out of a total of 98 professional midwives, 69 are working in the major urban cities: Ouagadougou and Bobo. This is partly due to the fact that midwives marry well-to-do government employees and live where their husbands are assigned. There are around 212 auxiliary midwives (matrones rurales) in public service and 28 in the private sector (personal communication: WHO/Upper Volta).

Auxiliary midwives are trained for 6-18 months to work at rural maternities. There are a total of 128 rural maternities attached to dispensaries and 34 rural maternities alone (including cities). Auxiliary midwives must be at least 18 years old and literate in French. Generally, they are trained at the maternities to do deliveries. Most are paid by the rural collective, however, some are paid by the Ministry of Health.

Community development agents (animatrices) are trained to work at village level to improve general health and sanitation of the community. For example the UNESCO project trained a total of 193 volunteer animatrices and 34 paid village monitrices (3)<sup>1</sup>.

#### 6.2.2. Primary Health Care

Given these conditions - shortage of qualified health personnel, limited health centers and poor communication - the Government of Upper Volta is attempting to find a solution to these problems. One alternative supported by WHO is to organize primary health care personnel for village communities. There already exists certain kinds of health agents in Voltaic villages: first-aid workers (secouristes), traditional birth attendants (accoucheuses traditionnelles), auxiliary midwives (matrones rurales), community development agents (animatrices/teurs) and traditional doctors (guérisseurs). The Upper Volta Red Cross has trained 15,000 secouristes of which some serve in villages. Traditional birth attendants continue to provide an important

<sup>1</sup>. A monitrice has a higher level of education than an animatrice and is salaried.

service for rural woman considering the shortage of qualified midwives serving in the rural milieu. Pharmaceutical services in Upper Volta are studying traditional medicines with the hopes of integrating effective treatments at a reasonable price for primary health care programs (6).

Before significant progress can be made toward promoting the integration of traditional health agents such as traditional doctors and traditional midwives into primary health care programs, it is necessary:

- (a) to survey the villages primary health care needs
- (b) to survey existing "health agents"
- (c) to define the functions of the health agents and prepare training programs
- (d) to orient health personnel toward the new approach (6)

### 6.3 Training Programs for TBAs

Although the Government is interested in training TBAs, it has not yet launched a definite program. However, efforts have been made by several motivated doctors to develop training programs on a regional basis. Some of these regional efforts are taking place at Kongoussi, Fada-N'Gourma, Yako, Gaoua and Kaya<sup>2</sup>.

### 6.4 UNESCO Experimental Project

One TBA training program of special interest is under the auspices of the UNESCO Experimental Project - Equal Access for Women and Young Girls to Education (Egalité d'accès des femmes et des jeunes filles à l'éducation).

2. Perhaps other regions are also training TBAs, however, the researcher did not have time to visit all regions.

Under the Ministry of Education, the project was financed from 1967-1976 by UNESCO and UNDP, with assistance from UNICEF, Peace Corps, SUCO<sup>3</sup> and Catholic Relief Service. The goal of the project is to integrate women into the process of development by increasing educational possibilities offered to young girls and women in rural areas. Various educational activities were undertaken to improve the quality of life of rural women including civics, health, agriculture, family economics, social education and crafts<sup>4</sup>.

Training TBAs was carried out in the three regions of the project: Kongoussi, Banfora and Pô. Long-term objectives of the program are to lower maternal and infant mortality and to assure a more harmonious development of the family and country, of which the economic and social development depends on the health of its inhabitants. Each of the three regions were chosen because of different levels of economic development:

Kongoussi - Situated at 105 kms North-East of Ouagadougou, it is an arid zone with little and irregular rainfall; the major ethnic group is Mossi; least favored region of economic development.

Banfora - Situated at 445 kms to the West of Ouagadougou, it is the most prosperous of the three regions; agriculture and factories favor development; diverse ethnic population including Senoufo, Goins, Turkas and Karabores.

Pô - Situated at 150 kms South of Ouagadougou near Ghana, it is a zone of intermediate economic development compared to the other two. The major ethnic group is Kassena.

3. Service Universitaire Canadien d'Outre-Mer.

4. Included activities such as collective farming, mills and donkey carts; literacy, village maternities, child care, health education, weaving, constructing latrines and water filters, sewing, civics, training of animatrices and TBAs plus other activities.

Three dispensaries are located in the zone of Kongoussi. One maternity at Kongoussi is run by nurses and two others in villages are run by midwives. At Banfora, there is a hospital with a doctor, midwife and nurses. There are three dispensaries in the zone. In the Pô zone, there is at least one hospital/maternity plus dispensaries. Due to the diversity of the zones, each TBA training program was adapted locally to the needs of each group. A total of 96 TBAs were trained in all three zones; out of these 29 attended refresher courses.

UNESCO TBA Training Programs, Upper Volta, 1968-1975

	<u>Dates</u>	<u>Number of Participants</u>	<u>Number Recycled</u>
Kongoussi	January 13 - Feb. 13 (1969)	13	
	(No date given) (1970)	6	
	March 15 - April 14 (1972)	4	
	April 17 - May 17 (1972)	1	
	April 17 - May 3 (1972)	-	6
	Feb. 17 - March 15 (1975)	14	
	Total trained	38	Total recycled 6
Banfora	March 15 - April 9 (1971)	19	
	March 8 - April 5 (1975)	13	
	Total trained	32	Total recycled 0
Pô	May 2 - May 30 (1973)	26	
	March 2 - March 22 (1975)		23
	Total trained	26	Total recycled 23
GRAND TOTAL		96	29

Source: Rapport de fin de mission du Conseiller Technique Principal, Projet Expérimental UNESCO, 1976 (3).

By upgrading technical skills of TBAs, the UNESCO project hopes to improve the overall health of mothers and children, thereby contributing to the social and economic development of society as a whole. Training programs were obtained from Pô and Kongoussi. There is no standardization of training. Their objectives are to improve technical midwifery skills of TBAs and to provide general education for TBAs so that they will become community development agents.

#### 6.4.1.1 Pô Training Program

The training program from May 2 to 30, 1973, was obtained as an example. Twenty-seven TBA trainees were selected by villagers using the following criteria:

- (a) accepted by village women
- (b) influence on both village women and men
- (c) experience doing deliveries
- (d) someone who can serve a long time (not too old)

The age of TBAs chosen ranged from 30-55 years. An average of two TBAs were recruited from 14 villages having populations from 227 to 1,235. Participating villages were located between a radius of two to 47 kms. Trainees were lodged together and a baby sitter provided for children. An official opening ceremony which included government officials, project officials, and training staff launched the four week training program.

General education sessions were held at the UNESCO Regional Office. Subjects included a variety of topics covering health education, nutrition, domestic skills, civics, organizational skills, technical skills for TBAs, agriculture plus other miscellaneous topics (see Annex 7). Educational films were shown on hygiene, child care and nutrition.

The teaching staff of 23 included UNESCO staff, technical experts and Government officials.

Technical training took place at the maternity. Groups of four trainees rotated daily for 24 consecutive hours (8 a.m. to

8 a.m.). Health personnel instructors including two doctors, two state nurses, and four nurses were responsible for theory, practical training and supervision. Training covered prenatal, delivery and postnatal phases. Special emphasis was put on recognizing problems in order to evacuate (see Annex 7A). Instruction took place in the Kassena language.

The financing of the training was by UNESCO (see Annex 7B). The Ministry of Health contributed instruments and medicine for midwifery kits. At the closing ceremony of the training session, the TBAs were presented with certificates and midwife kits (see Annex 8).

#### 6.4.2 Kongoussi Training Program

The UNESCO project has been training TBAs in Kongoussi since 1969. As already stated, a total of 38 TBAs have been trained, and six have undergone a refresher course. A total of 14 were trained in the most recent training program from February 17 to March 15, 1975<sup>5</sup>. Expenses for the program totalled 71,711 CFA. UNESCO staff members in Kongoussi feel that over the eight year period 1969-1976, the overall situation of childbirth in the village has improved due to their efforts to train TBAs<sup>6</sup>. Since the initial conception of the program, three TBAs have died. They have been replaced by younger ones who can serve longer<sup>7</sup>. Younger TBAs are preferred because they are easier to teach and more physically capable of the work.

Several difficulties were highlighted. First, there is no established system of supervision except occasional visits by UNESCO monitrices, birth registries and refresher courses. The Ministry of Health does not contribute to supervisory efforts. Second, supplies for the midwifery kits are not regularly replenished. After the initial contribution from the Ministry of Health, the villagers are expected to pay for their own supplies.

5. 1975 Kongoussi training program is very similar to that of Pô, therefore, is not included in the Annex.

6. Impressions only, no official evaluation to prove this point.

7. TBAs undergo physical examinations to determine fitness.

### 6.4.3 TBA Profile

Yalka is a small Mossi village located 20 kms from Kongoussi. Dry and barren, it is in one of the least economically developed areas of Upper Volta. In 1969, two traditional midwives were trained at the Kongoussi medical center by the UNESCO project. They attended refresher courses in 1972 for 15 days and again in 1976 for one week.

One TBA who was trained is also the village leader. She is very influential and well respected by villagers. In addition to regular deliveries, she traditionally does excision and tribal scarring. She administers first-aid for children but does not systematically do nutrition counselling.

The profession is not necessarily inherited, often daughters are not interested in the job. Before training, she cut the umbilical cord with a metal traditional knife which she also used for excisions, she says that now she uses scissors. The TBA did not tie the umbilical cord, instead she put pieces of heated pottery on the end of the cord. She did not wash the baby. After miscarriage, it is believed that women should not wash themselves for two weeks. Husbands did not allow their wives to go to the hospital in case of difficulties.

When asked if she has noticed any changes since her training, she responded that her work is much better and cleaner than before. She now washes the baby with heated water, she ties and bandages the umbilical cord and puts eyedrops into the eyes of the newborn. She learned about causes of infant mortality such as tetanus. Before training, she did not do evacuations, now she understands when a woman should be evacuated and the men accept it. Consequently she said, there have not been any maternal deaths in the village since 1969. She also learned how to do deliveries with the patient lying on her back. However, she is not convinced that delivering on the back is better than in a kneeling position. Concerned about hemorrhage during pregnancy, she asked what could be done to stop it. Due to lack of regular supervision, the TRA has difficulty replenishing her medical supplies.

A birth registry is kept by the animatrice who lives in the same village. It showed that the number of births averaged two to three per month with a total of 168 deliveries since 1969. Five different villages are registered. The TBA is called by other villages when there are difficulties. In her own village she is present before the actual delivery.

The TBA is self-employed but is not paid money for deliveries. However, she is paid 250-300 CFA to do excisions. She uses some of this money to buy necessary supplies such as alcohol, cotton, mercurochrome and antibiotic powder.

Judging from first impressions, one could conclude that over the seven year period, the training of TBAs has had a significant impact on the community and has improved obstetrical care. Unfortunately, it seems as though training staff preferred imposing modern techniques on the TBA without taking into consideration other possibilities. For example, the traditional knife can easily be sterilized and there is no harm in maintaining the traditional delivery position. Buying medical supplies such as antibiotic powder is a burden on the TBA. A system of supervision which assures a low-cost supply of medical supplies is necessary.

#### 6.4.4 Village Maternities

Village maternities were originally built by the villagers themselves to provide a place for rest after birth in case of complications and to diminish risks of tetanus, which is the major cause of infant mortality in the villages (1).

However, experience has shown that the population and TBAs do not like to use the maternities for the following reasons:

- the maternity is often too far from concessions
- the TBA is not paid to stay in the maternity
- the earthen buildings are falling apart and in need of repair
- the maternity is often more unsanitary than concessions
- problem of access to water
- the women are afraid to stay alone in the maternity.

The village maternity in Yalka, near Kongoussi, has been converted into a class room for literacy classes.

#### 6.5 - Expansion of UNESCO TBA Training

The Ministry of Education is soliciting funds from UNDP to expand the UNESCO TBA training project to three other zones: Sahel, Bobo and Dedougou. The project title is "Training Traditional Birth Attendants and Other Agents of Social Promotion and Family Health for Community Development". If funded, the project will begin in January 1977 and last for five years. They hope to train 150 TBAs each year. Immediate objectives of the project are:

- to give TBAs notions about hygiene permitting them to give advice before, during and after pregnancy, and to equip them with medical supplies necessary for deliveries and village pharmacies;
- to give notions about sanitary education, family health, nutrition and child care so that they may advise the village community;
- to give elements of animation technics so that they may lead the population in community development;
- to give training to animatrices, monitrices and other socio-economic agents that will reinforce the action of the TBAs;
- to develop a system of evaluation to measure the impact of the project;
- to develop audio-visual material adapted to train TBAs and for village health education.

#### 6.6 - Kongoussi Medical Center

The Kongoussi medical center started its own TBA training project in September 1976 separate from the UNESCO project. They recruited 16 TBAs from 16 villages located more than 20 kms from

the hospital. The two week training program established by the head doctor at Kaya includes the following objectives:

- to train TBAs to do normal hygienic deliveries, evacuating when necessary;
- to prevent child illnesses such as malnutrition;
- to teach health and nutrition education;
- to distribute aspirin, nivaquine, vitamins, collyre (eye-drops) and disinfectant in order to provide free first-aid for mothers and newborns.

Supervision will be done by a health team who will visit villages every 15 days. The team will execute a program of health and sanitation education and at the same time control the TBAs and replenish their supplies. The team will be composed of one nurse, three pill distributors and five nurse aides (matrones rurales), using two landrovers to accomplish their tasks. This team will not supervise the UNESCO project TBAs in the Kongoussi area. In the future, maternities will be built in each village consisting of two huts and a shed.

#### 6.7 Fada N'Gourma Regional Hospital

At the Fada N'Gourma regional hospital, the "Frères des Hommes", a private French voluntary organization, has trained thirty matrons and eight TBAs. The matrons are young (18-25 years), have children of their own, speak French and are chosen by the village. They are trained for three to six months at the maternity to do PMI tasks and deliveries. Matrons work at rural maternities, which are built of cement, have one room for PMI activities, one room for deliveries and one storeroom.

TBAs are trained at the maternity for 10 to 15 days.

Training concentrates on principles of hygiene, normal deliveries and detection of abnormal cases for evacuation. Ideally the matron and TBA are to work together in the rural community with the matron supervising the TBA. The TBA, who is a volunteer, works

at village level while the matron runs the maternity and PMI. When there is no maternity, the TEA is expected to do demonstration of baby food and to distribute nivaquine. Payment to the matron is 300 CFA per delivery of which 50 CFA is to buy supplies for the maternity. Births average 12 per month giving a monthly salary of CFA 3,000. Dr. Mary Françoise cited the following obstacles to the integration the TEA into the modern health system:

- negative attitude of the health staff towards the old uneducated TEA;
- teaching methods for TBAs training were lacking;
- there was no sociological study to determine approach to training;
- the TEA does not always accept the matron and is not integrated into the rural maternity.

#### 6.8 Yako Medical Center

Dr. Gourrier began training TBAs in 1974. Over 50 have been trained. After six months training at the maternity, the TEA returns to her village to do normal deliveries and nutrition education. There is no regular supervision in the field due to lack of personnel and resources. Upon completion of training, a basic midwifery kit is provided. Replenishment of medical supplies is free at the Yako hospital upon presentation of a birth registry. Birth certificates are then given to the TEA to distribute to the population (personal communication: state nurse at Yako medical center).

#### 6.9 Summary

In Upper Volta, training of TBAs is done on a regional level depending largely on the motivation of individual doctors and demand. As yet, there is no official government TEA training program. Findings indicate an overall trend to expand training programs for TBAs on a sectorial basis. It is recognized in some areas that TBAs have an important role to play in safeguarding the health of women and children on the village level.

A major TBA training program is included as a component in the UNESCO experimental project - Equal Access for Women and Young Girls to Education (Egalité d'Accès des Femmes et des Jeunes Filles à l'Education. Since 1969, 96 TBAs have been trained and 23 recycled. Training takes place in three regions of economic diversity: Kongoussi, Pô, and Banfora. TBAs are trained for four weeks to be a community development worker as well as to attend deliveries. Village maternities have been built but have met with limited success because they are not kept clean and women are afraid to stay alone in the maternity at night. Two major problems exist which limit the success of the program: the lack of regular supervision and lack of a low-cost system to replenish medical supplies.

Regardless of these problems, the program has been relatively successful and the Ministry of Education is soliciting funds to expand the UNESCO TBA training program in 1977 to include the Sahel, Bobo, and Dedougou zones. They hope to train 150 TBAs per year. It is planned that the TBA will be responsible for a simple village pharmacy. Efforts are being made to develop a system of evaluation which will measure the impact of the project.

Other training efforts are taking place on a smaller scale in Upper Volta at Kongoussi medical center, Fada N'Gourma regional hospital and Yako medical center. Training periods vary from ten days to six months and emphasize practical training. Activities generally include normal deliveries, postnatal care, simple nutrition and some health education. At Kongoussi medical center they will train the TBAs to distribute pills and administer minor first-aid. Supervision will be carried out every 15 days by a mobile team. All TBAs return to their maternal villages where they are self-employed. The researcher did not see any cases where TBAs are integrated into modern health facilities.

Matrons rurales or rural auxiliary midwives are being trained to work in rural maternities and other health facilities. As of October 1976, 240 had been trained. Matrons are considered a part of the official health program. Some are paid by the Ministry

of Health and are therefore responsible to the government to fulfill certain obligations. On the other hand, TBAs are an unofficial component and are not directly responsible to the Ministry of Health. Matrons are young and literate therefore capable of carrying out a wider variety of activities which demand literacy. However, because of their youth they are not easily accepted by village women. On the contrary, the older, illiterate TBAs have the advantage of being more acceptable to the villagers because of their age and experience.

Common difficulties encountered in Upper Volta TBA training programs are:

- due to the vertical organization of the Government rather than horizontal, co-operation between different agencies is not assured. For example, in Kongoussi, health personnel will not supervise TBAs from the UNESCO project of the Ministry of Education;
- the access to villages is difficult because of roads and distances;
- supervision is insufficient because of lack of personnel and material resources such as transportation and gas;
- it is difficult to systematically replenish midwifery kits once issued;
- in general, rural women do not accept delivering in rural maternities;
- indepth sociological pre-studies were not conducted to determine necessary practice and attitude changes for TBAs;
- no evaluation or cost-effectiveness studies have been carried out.

## 7. CAMEROON

### 7.1 Demographic Profile

The United Republic of Cameroon is a country of cultural and geographic diversity. It is estimated that over 200 ethnic groups exist in Cameroon along with twenty-four major languages and numerous dialects. Out of a population estimated to be 6.5 million in 1974, the major ethnic groups include the Fulani numbering 400 thousand in the North, the Bamileké numbering 701 thousand in the Western highlands and the Pahouin numbering 705 thousand in the Southern forest. In 1973, approximately 75 percent of the population was rural, residing mainly in small villages and unplanned agricultural settlements or nomadic (9). Density ranges from three inhabitants per km<sup>2</sup> in the Eastern Province to 70 inhabitants per km<sup>2</sup> in the Western Province. With an annual growth rate of 2.1 percent the population will be 7,200,000 in 1980 (3). Historically, the Cameroon is the only country in Africa where both the French and English languages have been given official status, with French being the dominant language.

### 7.2 Health Resources

Dr. Abané, Director of Rural Medicine and DASP Zones, reports that health services for the rural population are characterized as being inaccessible to a large percentage of the population due to distance, bad roads and the impersonal behavior of health personnel. Care is given uniquely to hospitalized patients indicating that priority is given to curative medicine rather than preventative medicine. The distribution of health centers and health personnel favors high density population areas. Dr. Abané notes that 64 percent of qualified medical personnel are concentrated in hospital services. The situation is further aggravated by poorly equipped health centers and incompetent personnel (1). Therefore, in 1967, in an effort to improve health delivery for the rural population, the Government created Health Demonstration Zones (Zones de Démonstration d'Action de Santé Publique - DASP) in six different geographic regions of the country.

The long-term objectives of the DASP project is to progressively improve the coverage of the population through community medicine to obtain eradication of endemic diseases. The short-term objectives are: first to adapt and integrate methods and techniques of community medicine in a smaller zone before application to larger areas; and second to train personnel using methods adapted (2).

The rural population faced with inefficient health delivery systems continues to rely heavily on traditional doctors (guérisseurs) and traditional birth attendants (accoucheuses traditionnelles). The Government is attempting to more fully understand traditional practitioners. In the fourth five-year development plan (1976-1981) it states: "Efforts will be made to list and identify traditional doctors with a view to integrating traditional medicine into a rational treatment system for sick persons". (7) 1. The National Commission for the Study of Traditional Medicine was created in 1976 in order to define more clearly traditional medicine and its practitioners. As Dr. Lantum explained, it is hoped that the general attitude towards traditional practitioners will change and that they will eventually be more integrated into the modern health system. It would logically follow that after a greater understanding and acceptance of their practices have been achieved, training programs for indigenous healers would be developed. Traditional doctors themselves have organized associations to represent their profession. Traditional birth attendants have not.

The Cameroon Government has no present official policy towards integrating TBAs into the modern health system. During discussions with health officials and personnel, two distinctly opposing opinions about training TBAs emerged.

### 7.3 Negative Aspects Toward Training TBAs

According to some health officials in the Ministry of Health, the Government does not want to encourage the practices

1. It is not clear whether "traditional doctors" include traditional birth attendants.

of TBAs, rather they wish to train more qualified auxiliary health personnel who will eventually replace the services of the TBA in the rural areas. Ideally, at every elementary health center (centre de santé élémentaire), which is the basic health unit, they would like the health team to include one nurse/accoucheur (auxiliary nurse with one year training), one nursing aide/laboratory option and one nursing aide/accoucheur. The following statistics reflect the trend to train more health-auxiliaries.

Health Personnel Training Projections, Cameroon, 1976-1981

Personnel	Target 1981	Present Strength	To be trained
State certified nurses and nurse-accoucheurs (5 years study)	441	161	250
State registered nurses (3 years study)	2,044	1,414	600
Nurses and accoucheurs (1 year study)	2,394	1,294	1,100
Nursing aides	2,493	1,293	1,200

Source: Fourth five-year Economic, Social and Cultural Development Plan 1976-1981.

It is felt that it is essential to train literate health workers rather than illiterate TBAs. The nursing aides must have a CEP (Certificat d'Etudes Primaires). Nursing aides are young, (17-30 years), and 30 percent are assigned to rural health centers. Reportedly, they are accepted by the local population and the population uses the traditional practitioners less and less<sup>2</sup>.

According to Mrs. Moulom, Director of the National School of Nursing, Midwifery and Sanitary Engineering, some additional negative factors concerning the training of TBAs are:

- there are no statistics to show how their working practices actually affect the rate of tetanus and mortality:

<sup>2</sup>. This cannot be verified by the researcher.

- TBAs make errors during their practice which causes complications and deaths;
- very little is known about their practices;
- if you start to train TBAs many others will want to be trained and will expect financial reimbursement by the Government which is impossible.

### 7.3.1 Dschang Experience

The only experience the Government has had with training TBAs was during the early 1970's in the Bamilaké department of Menova, at Dschang. Dr. F. Klefstad-Sillonville, head doctor of the Dschang hospital, trained village birth attendants (accoucheuses de village). As of 1970, a total of 168 TBAs had completed the four-week training session (4). However, as Dr. Abané explained, the program in Dschang was not successful in the long run because:

- when the expatriate doctor left Dschang, the next doctor did not consider training TBAs a priority and did not continue the program;
- the principle of voluntary service was not accepted; the TBAs expected they should be paid by the Health Ministry for their services.

Because of this experience, the Government fears that once TBAs are trained they will demand a Government salary which is impossible to give.

### 7.3.2 Bamenda Experience

During my visit to Bamenda in North-Western Province, former West-Cameroon, I encountered both ignorance on the part of health officials about TBAs activities and strongly negative attitudes toward their integration into the health system. This may be due in part to the gap between educated health officials and villagers, and the advanced development of health facilities.

I visited two rural health centers, both of which are against training TBAs. In most cases health officials said professional TBAs do not exist and that if it is necessary to deliver at home, a member of the family or whoever is around attends the delivery. At one health center, personnel are making an attempt to work with traditional doctors yet remain adamantly against training TBAs. Reasons given for this are: TBAs have low standards and quality of work, they do not know what to do in case of complications; and they prefer to train professional health personnel and build health centers. In fact, everything is being done to discourage deliveries in the home. The population is afraid of home deliveries because in case of death this could lead to serious problems with relatives and the police.

Curiously enough, I interviewed one TBA who had previously worked in a village about 30 kms from Bamenda. The village is located in the mountainous region around Bamenda with no maternity within easy walking distance. In 1965, this TBA had been trained by Dr. J.A. Kusin, a Dutch volunteer. The traditional midwife said that there are five other TBAs who continue to work in her maternal village.

#### 7.4 Positive Aspects toward Training TBAs

As explained to me by Dr. Abané, head of rural medicine and DASP Zones, the Fourth Plan of Development explicitly encourages the consideration of possible contributions by traditional practitioners, including TBAs, to the health delivery system in Cameroon. This is in compliance to the general health policy as stated by the Health Minister, Fokam Kamga (1976) which includes total health coverage of the entire country, and active involvement of the population in health promotion (5). In addition, it is hoped that by establishing village maternal and child care centers as stated in the Fourth Plan, it will be possible to train TBAs locally. The goals of such a training program would be to improve hygiene during deliveries; to train TBAs to recognize the limits of their knowledge and skills thereby evacuating difficult

cases; and to give advice concerning nutrition and sanitation. TBAs exist, are experienced, and are accepted by villagers. Many women continue to deliver at home for various psychological and social reasons.

#### 7.4.1. Mortality Rates

Surveys on infant mortality in the Cameroon estimate 100 per thousand live births for the urban population and 200 per thousand live births for the rural population (5). From a survey of 567 women in Dschang (1970), infant mortality was estimated at 130 per thousand live births in maternities and 400 per thousand for home deliveries (4).

Due to the scarcity of obstetric and pediatric expertise to conduct research, studies have scarcely been touched upon in Cameroon. However, the general impression is that perinatal mortality contributes a huge proportion to the infant mortality just discussed. Dr. Nasah in the 1975 Obstetrical Report noted that in two maternities in urbanized Yaounde, prenatal mortality rates were 31.2 per thousand total births and 43 per thousand total births (8). From these statistics we could expect such rates to be even higher in rural areas.

Causes of maternal mortality rates have not been systematically analyzed, however, as shown by Lantum (1973) maternal mortality resulting from spontaneous and provoked abortions is a problem. Maternal deaths are reported to result from criminal abortion, grand multiparity and intoxication with concoctions and insertions by indigenous local practitioners (5). Statistics from two Yaounde maternities in 1975 pointed out that avoidable maternal deaths accounted for 90 percent of all deaths, and that 16 percent of these maternal deaths had been treated by traditional birth attendants before admission. Two reported examples of maternal deaths in maternities resulting from practices of TBA are as follows:

- "Age unknown. Woman admitted sixth day post-partum (from village) with retained placenta. Pregnancy and delivery supervised in village. Traditional birth attendants. Comment: How much do we know about the traditional birth attendants in Cameroon?"

- "Age 24. Delivery by TBA. Admitted fourth day post-partum. Treated "à l'indigène". Died one day hospital. Comment: How effective is our health education program?"

Because of problems associated with the practices of TBAs in the villages, Dr. Nasah feels that "There is need for positive action on the part of the Ministry, first to control the practice of traditional doctors and to ensure the safety of patients. One way to eradicate harmful practices is to replace them with beneficial ones (8).

It is difficult to get accurate statistics concerning mortality rates for both rural and urban areas. In rural areas deaths are often not reported, the corpses are silently buried. However, the following statistics collected from maternities give an indication of problem areas:

Maternity Activities, Cameroon, 1974

Department	Normal	Dystocia	Living	Stillborn	Infant Mortality first week	Maternal death	Miscarriage
Centre-Sud	28,849	663	28,678	834	317	76	1,835
Littoral	6,499	169	6,562	213	14	11	862
Nord	10,504	418	10,462	554	188	56	759
Ouest	28,147	768	28,373	738	182	26	1,318
Nord-Ouest	14,953	863	15,550	266	134	13	675
Est	2,378	83	2,314	151	30	15	162
Sud-Ouest	4,339	178	4,568	50	50	5	20
Total	95,669	3,142	96,504	2,806	975	202	5,631

Source: Dr. Nzhe - Department of Research and Statistics, Ministry of Health.

#### 7.4.2 Use of Maternities

Everything is done to encourage Cameroonian women to deliver at available maternities, however, some remain reluctant to do so, especially in the rural areas. Dr. Abané said that some women prefer to deliver at home rather than the maternity because:

- limited number of beds;
- impersonal reception of health personnel and

- limited resources such as medical supplies and personnel. Frequently, women do not want to leave their households and children.

Rural women are further discouraged from using maternities because of strangeness of the environment; indigenous practices which could psychologically benefit the woman are not allowed; distance to the maternity; and once at the maternity food must be provided by family members who accompany the mother. A woman usually sets out for the maternity on foot and if lucky, by car, when her labor pains begin. Impromptu deliveries on the road are not uncommon.

In a study carried out by UNICEF on two rural maternities in Matomb and Ngog Mapubi, it was found that out of a combined population of 70,000 inhabitants, only an average of forty deliveries occurred in each maternity monthly. This reflects, in the opinion of UNICEF, the underutilization of available maternities in rural areas and the tenacity of the rural population to cling to their traditions surrounding childbirth, including home deliveries with the help of TBAs. UNICEF estimated that 80 percent of the rural female population continues to deliver at home. Many only come to maternities when there are complications.

Under these circumstances, UNICEF feels that a logical step would be to train TBAs as an interval step before the population fully accepts the modern health facilities and personnel. However, it is very difficult to start TBA training programs in Cameroon and other Central African States. The reasons for this are not fully understood. Notwithstanding, UNICEF said they would like to encourage training TBAs in the future within the framework of DASP Zones (personal communication: Mr Franklin Rakotoarivonu, UNICEF).

#### 7.5 TBA Profiles

Personal conversations with TBAs and available reports made it possible to put together actual practices of TBAs. Given the cultural diversity of the Cameroon, techniques and beliefs

concerning childbrith vary according to group and as well as the individual.

#### 7.5.1 Dschang

Dr. Klefstad-Sillonville (1970) reported in his article on Bamiléké TBAs that a large number of deliveries take place in villages with the assistance of co-wives, an experimented neighbor, or perhaps a male traditional doctor (guérisseur-accoucheur). Infractions of social rules and offenses toward ancestors can release vengeance which will prevent the woman from giving a child to the world. If the woman has not been fidel to her husband, she must confess all men with whom she has had sexual relations to assure a smooth delivery. If childbrith is not promptly accomplished, the blame may be put on a jealous sterile co-wife, a fetish enacted by a neighbor who wants some of her land, or the sorcier himself could be a vampire who ate the baby in the stomach of the mother. Unable to find the cause, in despair, they look for the traditional doctor (guérisseur-accoucheur) to help. Births take place in the homes of women. The placenta must be buried in the soil nearby, thereby attaching the child and adult to his ancestral territory. This explains why a grand majority of women continue to deliver in their homes.

#### 7.5.2 Bamenda

Mrs. Freida Menbo worked in her maternal village, Baba Tou, as a TBA before she came to Bamenda, a major city in former West Cameroon. She learned her profession by experience as did five other TBAs in her village. The aunt of her grand-mother was a TBA. The village women called on her during prenatal, delivery and postnatal stages. Palm oil was utilized during examinations. Abdominal massages were utilized as were hot baths for the mother and child. She would bury the placenta an arm's length from the door of the house. If it was thrown outside, the child would not be stable. Traditional payment was palm oil, cooked plantain with meat, or soap. In 1965, she walked eight miles to a health center once a week for six

months to follow a course for native midwives given by Dr. J.A. Kusin, a Dutch volunteer. To this day, she has an identity card with her picture stating she had successfully completed the course for native midwives of which she is very proud. She does not continue to practice in Bamenda.

### 7.5.3 Ekoko II and D'Ekali I

I visited two Muogamoug villages located 30 kms from Yaoundé. Conversations with seven TBAs revealed the following:

The TBA's profession is passed down from generation to generation. They are active in prenatal, delivery and postnatal stages. Regardless of the fact that a maternity is 12 kms away, the TBAs continue to practice in emergency situations. The further away the village is from the maternity, the more deliveries they assist. Construction of a village maternity was begun in D'Ekali I but the Government suppressed it. In spite of the reality that the modern maternity is replacing their services, they are keenly interested in receiving training to improve their techniques. If trained, they said they would not expect any payment except the traditional gift giving.

Some traditional practices they utilize are listed below:

- during labor the TBA tells the mother to dance in order to "shake things up";
- mother lies on back with knees up;
- pre-delivery abdominal massage;
- cloth is used to plug anus so that the baby can find the right opening;
- when the baby's head is out, they plug the nose and mouth so the baby does not absorb water;
- three fingers are inserted into the vagina for examination;
- the umbilical cord is cut with a variety of instruments: razor blade, bamboo or scissors rubbed with alcohol. One woman said she is afraid to cut with scissors because she associates

tetanus with metal, therefore, she always cuts with bamboo;

- retention of placenta: (a) lifts mother under her armpits and hits her on the head; (b) makes the mother try to inflate empty bottle as one does a balloon; (c) abdominal massage; (d) prepares indigenous medicinal drink;
- the TBAs are accomplished herbalists and prepare various concoctions during all phases of the delivery to drink or to apply to the skin;
- when there is a serious complication, they call the traditional doctor (guérisseur) and/or go to the maternity.

#### 7.5.4 The Evuzok

Louis Mallart (6) in her study on the Evuzok, a group numbering 5,000 in South Cameroon, extensively describes childbirth and the role of the TBA. Following is a brief summary of practices:

The Evuzok traditional birth attendants are usually older. They become TBAs by heritage. The girl who accompanies her mother will progressively learn secrets of the trade and will in time become a TBA. Men (guérisseurs) who have received the power to practice childbirth are called in difficult cases to deal with specific evil spirits. In 1970, most of the women delivered in the village following traditional obstetrical practices:

- TBA participates in prenatal, delivery and postnatal stages;
- deliver in kitchen or outside behind the house;
- TBA prepares concoctions to drink and rubs the stomach in order to speed up delivery. She may also order the mother to walk around to speed up labor pains;
- the mother herself cuts the umbilical cord with a knife or razor blade;
- a mixture of cooked bananas and water is put on the umbilical cord;
- the placenta must be carefully buried in a secret place, often next to a banana tree. It is believed that loss of the

placenta will cause sterility;

- after birth the mother must submit to regular hot baths and energetic massages of the uterus;
- TBA may make the newborn sneeze by putting pepper into the nostrils in order to clear the chest;
- TBA puts various things into the eyes of newborn such as lemon juice or mother's milk;
- special concoctions are prepared by the TBA for the newborn's daily bath before the ritual presentation.

#### 7.6 Summary

The Government of Cameroon has no official policy to train TBAs, however, limited progress is being made to change this attitude. Many health officials interviewed felt there was a need to train TBAs, especially in isolated areas. Since the recognition of "traditional doctors with a view to integrating traditional medicine into a rational treatment system for sick persons" (7), the logical step would be to include traditional birth attendants in this effort. Traditional obstetrical practices constitute a major part of traditional medicine since the TBAs are frequently accomplished herbalists and knowledgeable in secret rituals surrounding childbirth. As can be seen from the descriptions of TBA practices, there are some worthwhile practices and some harmful ones. This indicates the need to train not only TBAs but also traditional doctors who frequently participate in deliveries.

It appears that TBAs in Cameroon have not taken the initiative to form their own associations as have traditional doctors, nor has attention been focused on their role and contributions to the Cameroon society. In reality, this may be due to the low-visibility of rural women resulting from their inferior social role and status.

Obstacles that stand in the way of training TBAs are: (a) attitudes of Government and health personnel, (b) lack of understanding of TBAs, (c) financial limitations and (d) lack of a practical approach to training TBAs. Regardless of these obstacles, TBAs continue to work in the Cameroon and they provide a necessary service to village women. They fill gaps that cannot be filled by professional midwives. As a result of this limited survey, it may be assumed that many TBAs are willing and eager to receive additional training to improve their practices without expecting monetary rewards.

### 8. CONCLUSION: COMMON TRENDS AND CONSTRAINTS

In conclusion, all five countries are facing the same problems in the rural health sector: a shortage of qualified health personnel and facilities; unequal distribution favoring urban areas; and under-use of existing facilities and personnel in rural areas. In Senegal, Mali, Niger, and Upper Volta, TBA training programs are on-going. In Central Africa, there are presently no on-going training programs because of a prevailing negative attitude toward their integration into the modern health system. Overall objectives of all training programs are to improve rural obstetrics on the village level by training available traditional health personnel thereby lowering infant and maternal mortality rates. Most training programs are regional efforts; Niger has the only nationally supported TBA training program. TBAs are not officially recognized as official health staff in most countries and they have no legal status.

Despite various problems listed below, there is a definite trend to expand TBA training programs. It is apparent that programs which seek to integrate TBAs into the modern health system will be effective only to the extent that the constraints discussed in the following sub-paragraphs are addressed.

#### 8.1 Attitude of Governments

Most governments are slow to recognize the role that traditional midwives play in the delivery of primary health care. They are hesitant to establish national policies and legal status controlling the training practices of TBAs. Only Niger has a national policy to expand the training of TBAs. Notwithstanding this trend, governments are beginning to recognize the utility of primary health care programs and that TBAs cannot be ignored. Governments are hesitant to plunge into beginning training programs because no sustained knowledge has been built up as a guide. The lack of co-ordination, planning and co-operation between government agencies hampers the effectiveness of program execution. In Upper Volta for example, the Ministry of Health

refuses to supervise UNESCO trained TBAs under the Ministry of Education. On the other hand, Niger has the most successful TBA training program because of the co-operation between animation and health, support by the Government, and the incorporation of TBAs into the broader framework of a primary health care program based on village health teams.

In many countries training TBAs is grouped together with maternal and child health activities and justly so. The logical place for the trained TBA in the administrative framework is within maternal and child health services or the PMI.

None of the five countries visited issued licenses to practice. This element of training TBAs should be considered by interested governments and carefully looked into.

The Ministry of Health or development agency should be responsible for training costs. It is not desirable that trained TBAs be put on the governments payroll. However, perhaps to encourage and motivate TBAs, the high performance TBAs could be rewarded by eventual integration into a local maternity/dispensary. A small monetary reward could be provided at this time by the government as done in Niger.

More emphasis should be put on cost-benefit analysis which depends on the evolution of selected health indices and on comparative studies to more clearly define alternative development schemes to improve rural obstetrics.

## 8.2 Attitude of Professional Health Staff

There exists a tremendous educational and cultural gap between the professional health staff and traditional midwives. The negative attitude of health personnel is the biggest obstacle to the integration of TBAs into the modern health system. Frequently educated in Europe, professionals have little knowledge and interest in traditional practitioners. They prefer to work in urban rather than rural areas. Midwives fear that TBAs will be put on the same status level and reduce their importance and

clients. Professionals are usually prejudiced against TBAs because they do not understand her beliefs and practices, they consider her to be ignorant and dirty, too old to assimilate knowledge, and too attached to traditions to change her practices. In some areas fines are imposed to discourage home deliveries. This attitude was the most striking in Cameroon where the trend is to train more auxiliary staff and to ignore traditional midwives. This gap represents a barrier to overcome if co-operation is to be established between the modern health system and the traditional system.

### 8.3 TBAs Themselves

I talked to a total of 27 TBAs. Their attitude unanimously reflected an interest in upgrading their skills and in co-operating with governmental health services. They were in favor of training, felt they had learned a lot, and were enthusiastic about retraining. In Cameroon, TBAs who had received no training were anxious to improve their methods. These results may be influenced by the fact that most of the TBAs already perceive the need to be trained. On the contrary, if this need is not perceived it can be a constraint. TBAs themselves may resist training for fear of the authorities, maintenance of secrecy surrounding their practices, or socio-cultural constraints that cannot be overcome. In Niger, it was reported that very few villages refused to participate in training, usually for socio-cultural reasons concerning the role of women. A few TBAs refused training because of the question of remuneration. Once trained they feel they should receive a fixed salary from the government.

### 8.4 Auxiliary Midwives

There is a trend to train young, literate girls from rural areas to be auxiliary midwives. They typically work at rural maternities built by villagers. These girls must be chosen by the rural community but it is not necessary they have experience in doing deliveries. Programs of this kind have been executed in Senegal, Mali and to some extent in Upper Volta. The girls should

be polyvalent. In addition to deliveries, they should perform maternal and child health, and administrative tasks. The idea behind this trend is that training TBAs does not significantly improve the health of rural women.

A major problem with training auxiliary midwives for rural areas is that unmarried young girls frequently abandon their posts. Therefore some programs have decided to train married women around 30 years old. For example in Sikasso, Mali, Dr. Diallo is making an effort to recruit women with the latter qualifications.

#### 8.5 Conflict between Traditional and Modern Health Sector

Introducing young auxiliary midwives into a traditional rural environment can create conflict between the traditional and modern health systems. Tradition dictates that older, experienced women who are familiar with childbirth customs should conduct the delivery. The first enemy of the auxiliary midwife is the TBA. In turn, the first enemy of the trained TBA can be the untrained TBA. In order to avoid a brutal break with tradition and resulting conflicts, some areas have found it better to train both TBAs and auxiliary midwives. The resulting roles are complementary: the TBA works on the village level, and the auxiliary midwife is responsible for the activities at the rural maternity or health post. Co-operation depends to a great extent on the personality of individuals involved. In Senegal, the rural communities in the department of Fatick chose six TBAs and six auxiliary midwives to be trained. Also, TBAs and auxiliaries work together at rural maternities. The TBAs are mostly responsible for deliveries, and the younger girls for MCH activities and administrative tasks requiring literacy.

An estimated 80-90 percent of deliveries in rural areas occur outside official health visits. Rural women prefer to deliver at home because of distance and lack of transport, economic factors, and socio-cultural attachment to the village traditions. Practices at the maternity may go against traditional beliefs and

taboos. For example, an important deciding factor for a village woman choosing where she will deliver is influenced by the handling and proper disposal of the placenta. As we have already seen, the way the placenta is buried is thought to determine the destiny of the child or fertility of the mother. The placenta is often thought of as a person which can fall into the hands of malintentioned people. A professional midwife may ignore these beliefs and practices. Social costs are another determining factor. If a young woman rejects the traditional midwife, who may also be a relative, this may lead to conflict which is too high a price to pay for perceived advantage.

Foster (16) is convinced that economic and social costs are more important in determining the use or non-use of scientific medicine than is the belief-conflict between traditional and modern medicine. Evidence proves that where scientific medicine is available for a generation or longer and has been of good quality, traditional peoples adopt the scientific medicine.

It is my personal opinion that training both TBAs and auxiliary midwives is a realistic and practical approach. It softens an abrupt break with traditions and at the same time encourages the gradual process of social change.

#### 8.6 Integration into Modern Health Facilities

The results of the survey did not indicate a strong trend to integrate trained TBAs into modern health facilities. Reasons for this have already been cited. The majority of TBAs work alone on the village level. However, it is worthwhile to summarize specific cases which can give the reader an idea of existing possibilities.

In Senegal, TBAs are integrated into rural maternities. A traditionally constructed rural maternity is operated by 30 TBAs who work in shifts and charge 350 CFA for each delivery. They are directly supervised by a state nurse. At another rural maternity, two TBAs work together with three young auxiliary midwives. They have no direct supervision. At one health post,

the team is composed of one sanitary agent, one TBA and one laborer. The TBA conducts deliveries, prenatal and postnatal consultations (sometimes with a midwife), and administers general first-aid to the community. She is not paid for her work except for occasional gifts.

In Mali, four TBAs have been working at a modern maternity for ten years. They work 24 hour shifts, are paid 500 MF per delivery and are supervised by a midwife. They are responsible for deliveries and supervision of the maternity when the midwife is not there.

In Niger, there are 13 TBAs integrated into PMI/maternity centers. Some are paid a small salary, others are volunteers who have hopes of eventually being paid. For example, at one PMI/maternity, there are two TBAs working, one receives 5,000 CFA per month, the other is a volunteer.

These examples show that an attempt is being made to bridge the gap between health personnel and traditional midwives. My general impression was that the TBA was highly appreciated and respected by the health staff in most of these cases.

#### 8.7 Self-employment

Evidence proves that the majority of TBAs accept the principle of self-employment. Payment is typically in kind or small money payments per delivery. The general rule has been to let the villagers determine the system of payment. Frequently, villagers adhere to the traditional payment system. Governments fear that once TBAs are trained they will demand a government salary has not proven true in the majority of cases. However, paid positions for exceptional TBAs should be encouraged as an incentive measure.

#### 8.8 Training

Training programs visited shared common elements and problems. Most training was done on a regional basis as a result

of highly motivated doctors. Niger was the only country that was supported by national directives. Some programs were a component of a broader rural development project such as the UNESCO project in Upper Volta and "Opération Riz" in Mali. Program expansion is hampered by shortage of manpower, lack of finance and lack of government support. Nevertheless, many programs plan to train more TBAs in the future.

There is a trend to select younger TBAs (30 years) rather than older women because they are easier to train and can work longer. According to the population of each village, one to three TBAs are chosen by villagers to be trained. One program in Mali selects one old and one younger inexperienced TBA to train.

The World Health Organization defines two types of training: (a) informal training which implies on-the-job training in the environment in which the TBA practices and (b) formal training which denotes structured courses with groups of TBA (36). According to this definition, the training pattern which emerged included two weeks of formal training at the nearest maternity in groups of 10 to 15, followed by informal training by supervisors in the village if possible. Trainees were either provided with food and lodging during training or they stayed with friends or relatives. UNICEF stipends were available for some trainees.

Teaching staff included midwives, nurses, community development agents, social assistants and Peace Corps Volunteers. In Niger, one TBA was included in teaching staff. Training was essentially practical and included lectures in the local language, demonstrations, and clinic and delivery sessions at delivery wards. Courses were fashioned after what the midwife or nurse had learned in school. Common topics included non-interference with normal labor and delivery, recognition and referral of abnormalities, basic nursing care and elementary nutrition education. There is a trend to expand their role to include MCH activities such as prenatal consultations. However, it has proven

difficult to expand activities to include preventative care because it goes against the traditional role and makes more demands on the workload of the TBA. In Upper Volta, the UNESCO project trains the TBA to also be a community development worker. Training includes lectures on civics, organizational skills, agriculture, domestic skills and health education plus other miscellaneous topics.

No program included family planning in the countries visited because of resistance created by traditional attitudes toward the value of children and the high infant mortality rates.

Some people feel that two weeks training is too short a period. The length of training is limited due to financial constraints and family obligations of the TBA. Retraining workshops are planned for about one week every year, however, retraining does not always occur when planned.

Selecting only one or two TBAs from each village seems necessary for financial reasons, however, probably creates a conflict between trained and untrained TBAs at the village level. Often, untrained TBAs were not allowed to practice. Perhaps training sessions at the village level including all interested persons could resolve this problem.

The major problem encountered during training was the teaching methods used. Many programs mentioned the need to train trainers. Most teachers were not prepared or trained to teach adult illiterates. Consequently, the teaching staff was at times insensitive to the TBA's level and needs during training. This suggests that more time needs to be spent on training staff how to teach and to develop relevant teaching materials. Only Niger had developed a teaching syllabus which was a picture guide explaining each lesson.

#### 8.9 Incentives

Incentives vary from one training course to another (see Annex 11). A universal feature is the provision of a midwife's kit after

training which may be provided by UNICEF or fabricated locally. The advantage of a metallic UNICEF kit is its durability and the protection it provides from sand. On the contrary, it is not adapted to local needs and often is too complicated for the TBA. Locally fabricated, wooden boxes cost from 1,000 CFA to 1,500 CFA to construct. Medical supplies are provided by the health unit. The major advantage of local kits is that the contents may be adapted to local conditions. For example TBAs have a difficult time learning how to use scissors. In this case adapting a sterilized local traditional instrument may be more practical. It is better not to rely on an external source for kits and supplies in case there is a shortage of supply.

After inspecting midwife kits in the field, I concluded that the majority were kept relatively clean, although not all instruments were being used. A greater effort should be made to adapt kits to local conditions and customs. Most of the traditional midwives were proud of their kits as a new symbol of prestige. Medical supplies such as alcohol, bandages, cotton and mercurochrome were often used up. Replenishment of supplies is a problem.

#### 8.10 Supervision

Supervision is difficult, irregular and in some cases non-existent. Two major methods of supervising exist: (a) the supervisor visits the TBA in the field or (b) the TBA goes to the nearest health post. Utilizing a mobile team for village to village supervision is ideal, however, there are major obstacles. First, it is expensive because of vehicle maintenance and petrol. Second, health personnel may not be available or their motivation may be low because they are not paid extra for the work. Midwives rarely have the time to supervise TBAs in the field.

Supervision should be combined with other activities in order to maximize the utilization of resources. In Niger, (department of Niamey), a mobile team consisting of health and

animation staff visits village health teams once a month. They replenish medical supplies for both the TBA and the first-aid agent, discuss problems with the TBA and village members, settle disputes, and collect statistics. The contribution of animation is invaluable because they are frequently most sensitive to village problems.

Birth registries are kept by most trained TBAs in which births and deaths are recorded. A literate person is asked to write in the information. The average workload ranged from 6 to 12 births per month depending on the size of the community. One way to control the TBA, is to oblige her to present her registry at the nearest health post or maternity in order to replenish medical supplies. TBAs may also distribute birth certificates.

In order to be effective, supervision methods should be adapted to local available resources, should be regular, and should be limited to a reasonable radius from a health center.

#### 8.11 Evacuation

All TBAs are trained to evacuate difficult cases. In reality, this is extremely difficult to accomplish. Obstacles to efficient evacuations include inadequate recognition of risks and their seriousness; the influence of men, marabouts or traditional doctors; the attitude of fatalism; and inadequate transportation. In Senegal, evacuations are done with a horse and cart. Other countries such as Mali, Niger and Upper Volta are not as lucky. Evacuation may be by horse, camel, donkey or country taxi if lucky. Frequently a messenger is dispatched to fetch a vehicle at the nearest health center but it may not be readily available.

Although difficult to resolve, emphasis should be put on finding a solution to improve evacuations. Many times the

reputation of the TBA depends on successful co-operation with health personnel.

8.12 Scientific Evaluation

A major constraint to program expansion has been the lack of scientific evaluations to guide decision making. The long-term goal of most training programs is to reduce maternal mortality and morbidity rates, neonatal and infant mortality rates and the incidence of tetanus of the umbilical cord. However, no conclusive evidence exists that proves that training TBAs is effective in improving the health of rural women and children.

9. GUIDELINES FOR INTEGRATING TRADITIONAL MIDWIVES  
INTO THE MODERN HEALTH SECTOR

The findings of this study may be of general interest to countries outside the study area who plan to utilize the indigenous midwives in the modern health sector.

By combining relevant information obtained from field research and available data, the following steps are recommended to formulate TBA training programs, assuming that health personnel and government officials have agreed to the concept.

1. Build in an evaluation framework to assess TBA performance. Such a tool should be utilized in order to assure continuous evaluation of the program based on its objectives. Presently, relevant statistics are not well recorded. More emphasis should be placed on developing simple means to collect information. The birth registry kept by the TBA is an important element of this process. Additional information should be collected by supervisors following established guidelines such as the evaluative framework developed in Niger (see Annex 6C). Evaluative indicators may include:

- (a) maternal mortality rates
- (b) perinatal mortality rates
- (c) morbidity rates
- (d) number of referrals to health units or more qualified health personnel
- (e) change in practices of TBAs
- (f) change in the workload of the TBAs

2. Assure an interagency approach at the village level. The initial contact with villagers is often the most crucial step. Most health personnel are not trained in community development techniques. Therefore, it may be helpful to combine efforts with trained rural community development workers. If training TBAs is not a felt need by the community, interest must be generated by holding meetings with the chief and notables, the

community members and the TBAs themselves. Educating men to the problem is vitally important since they often decide the fate of their women. Care must be taken to build confidence and enthusiasm in the villagers. In the end, it is important that the idea comes from the village community, not from the government, and that the villagers accept the responsibility of working out a system of payment that is most convenient to them. The idea that training implies payment by the government must be dispelled.

3. Integrate training TBAs with primary health care program. In order to more efficiently use human and material resources, TBA training programs should be a part of a broader community development action. It may be a component of a broader public or private rural development program or government health programs.

4. Supervision is an important aspect of programs and should be carried out regularly. Supervision duties do not have to be limited to health personnel. Trained community development workers, social assistants, or perhaps village primary school teachers can supervise TBAs with the technical support by the nearest midwife or nurse. Objectives of supervision should include checking the condition of the midwife kit and replenishing necessary supplies (low-cost medical supplies should be made available), gathering statistics, discussing and resolving problems with the TBA and village members, continuing education, and providing moral support.

Supervision may be through:

- (a) a mobile team concerned with controlling a broader primary health care program;
- (b) regular visits by TBA to nearest health facility, incentive measures include presentation of birth registry to replenish medical supplies and to acquire birth certificates;
- (c) periodic in-service education on a local level in the form of clubs, or meetings;
- (d) planned yearly workshops on district levels.

5. Training should take place in the rural community. Training should last a minimum of two weeks and a maximum of one month. It is not necessary to think that transport, meals and lodging need to be paid by the project. If the TBAs want to attend training sessions, they will find the means to do so either by self motivation or community support. Follow-up retraining sessions should be held periodically for one or two days. Supervisors should be responsible for continued individual training and support in the field.

6. Conduct an in-depth study in the proposed area. Relevant factors affecting program implementation might be:

- (a) determine where women deliver and who assists;
- (b) obtain personal characteristics of the TBA such as age, literacy, number of years in practice and estimated number of deliveries;
- (c) determine social status and influence in village
- (d) detect customs, beliefs and practices surrounding childbirth with the idea to eliminate dangerous practices, keep inoffensive practices and to add on new practices;
- (e) learn attitudes of village women and men toward existing alternatives of childbirth (example: TBA, family member or maternity);
- (f) ascertain perceived or non-perceived needs on the part of the TBA and community to improve health care for pregnant mothers and children.

Development of the program will be based on findings from this initial survey.

7. Local participation in the program. The rural community should participate in all phases of the program as much as possible. For example, they should select the TBAs to be trained; they should contribute money and/or labor and materials for the construction of the rural maternity; they should decide the method of payment; and they should participate in the resolution of problems.

Several factors should be taken into consideration concerning the selection of persons to be trained:

(a) depending on the results of the initial study, training may not necessarily be limited to one or two TBAs from each village. It is possible that family members, husbands, marabouts and traditional doctors participate in childbirth. Training should be adjusted accordingly;

(b) although it is difficult to train TBAs who are too old (65 years), nevertheless to avoid insulting the older TBA, an attempt should be made to train her as well as a younger TBA (30 years plus) who will eventually replace the older one.

8. Use local materials whenever possible. Do not train people to be dependent on materials and supplies they might not be able to afford or are not available. Do not condemn their traditional method before finding out its usefulness. For example, buying soap and razor blades is expensive. Perhaps there are traditional methods that insure cleanliness and safe severing of the umbilical cord. Rather than UNICEF providing a kit that is frequently misunderstood or misused, perhaps it would be better to make funds available to governments to provide a container for locally adapted supplies. Midwifery kits should be devised together with the TBA utilizing local materials.

9. Training should be a sharing experience. The TBA is an experienced professional and proud of her work. It is important that confidence and dialogue are built between the TBA and health professional in order to facilitate an exchange of ideas. The professional should not assume a superior attitude.

10. Limit scope of training programs. Most training programs try to cover too broad a range of subject matter, consequently retention is low. Major objectives should include cleanliness, recognition of abnormalities and confidence building.

Upon completion of a training course, TBAs should be able to fulfill the following objectives:

- (a) to identify types of mothers they can deliver and to conduct safe and clean deliveries;
- (b) to recognize signs and symptoms of abnormalities including high risk women and to refer them to more qualified health personnel;
- (c) to conduct simple prenatal examinations - determination of gestation, fetal parts, listen to fetal heart beats and observe for danger signs such as oedema;
- (d) to recognize the normal process of labor and delivery and avoid interference of the process;
- (e) to work co-operatively with personnel of the health units refer and persuade mothers to attend MCH clinics and carry out instructions received;
- (f) to provide simple information on birth, deaths and causes of deaths;
- (g) to care for newborns and mothers using hygienic practices;
- (h) to give simple nutritional advice concerning pregnant mothers, newborns and lactating mothers.

Objectives may be expanded if desired during retraining follow-up sessions only after it is assured that TBAs have retained original objectives. Avoid rapid expansion of activities that are against her traditional role.

11. Teaching methods and materials should be adapted to teach illiterate adults. It does not make sense that each country or individual training program spend time and money developing teaching aides that are often inadequate and inefficient.

Therefore, I recommend that a concerned agency such as WHO, UNICEF or USAID develop a uniform, low-cost teaching guide and audio-visuals which are explicit and easily used and understood by both the instructors and TBAs. This guide should include a simple handbook which can be locally adapted and given to TBAs to be used as a reference. It would also be useful for literacy campaigns.

TBAs only have their memory to replace notebooks, therefore, the following rules should be observed during training:

- (a) repeat the lesson several times;
- (b) explain why and how;
- (c) develop a dialogue between teacher and students; first the TBA explains her method, second the teacher explains the new method explaining why it is better and how to execute it;
- (d) use realistic demonstration techniques;
- (e) use simple terminology;
- (f) teach the "do's" not the "don't's".

Practice on dolls or a simulator pelvis using a doll is recommended, followed by practice at a maternity if possible. Audio-visuals are difficult for TBAs to understand during the short two week training period. Therefore, it is recommended that the use of audio-visuals be limited because it takes a skilled person to use them effectively. A special effort should be made to prepare instructors in public health and teaching methodology by holding a teaching skills workshop.

By following these guidelines and leaving room for flexibility, it should be possible to effectively design and implement low-cost training programs for traditional midwives. A large reserve of traditional health manpower in rural areas would be integrated into a practical and realistic framework which takes into consideration socio-psychological aspects of the TBA and the rural community.

## 10. RECOMMENDATIONS

It is hoped that this study will stimulate further research which will contribute to the meager body of scientific knowledge concerning traditional midwives and their utilization in modern health services. In the five countries - Senegal, Mali, Niger, Upper Volta and Cameroon - there exists a wide range of practices concerning the TBAs and the way in which they relate to the health sector. The material collected in this study suggests topics for further discussion.

A conference would be a useful forum and starting point for discussion of salient points and integration of ideas for West and Central African countries. The conference could be convened by an international health or development assistance organization. It could include representatives of all interested countries. Topics for discussion could include:

- (a) Desirability to develop a uniform teaching package for TBAs in French which could be utilized for teaching a wide variety of sub-topics. The development of audio-visual and teaching aids would be included in this package.
- (b) Dissemination of research results collected in this report.
- (c) Range and limitation of tasks which TBAs can be taught and permitted to practice including prenatal, delivery, postnatal, family planning, health education and first-aid tasks.
- (d) Methods and administrative mechanisms under which TBAs can be integrated into the modern health sector.
- (e) Desirability of having uniform vital statistic methodologies to evaluate current and future health trends.
- (f) Socio-cultural differences in utilization, practices, payment mechanisms, acceptance of role and functions of TBAs by medical and non-medical personnel.

- (g) Relative advantages and disadvantages of retraining older experienced TBAs versus training younger, literate and inexperienced girls to work in rural obstetrics.
- (h) Need for further financial and cost-benefit analysis to assist in the evaluation of TBAs function.

Recommendations concerning the training of TBAs could be included as a discussion topic during the proposed conference or could form the basis for a project by an existing organization. The development of training and teaching materials in French suitable for translation into local languages was a clearly defined need in all countries visited. It would be logical to develop a teaching package from which various countries and training levels could select those portions which they wished to cover. Little material is currently available on desired lengths or depth of training, frequency of retraining, and many other training related factors. It might be desirable to start with the development of a minimum teaching package and conduct research in its usefulness prior to developing a wider training program. Discussions concerning the role of trainers and teaching methodology employed should also be held.

Further evaluation is needed on most factors concerning the current and future roles and functions of TBAs. Little information is available on traditional or desirable tasks for TBAs. Almost no information is available to evaluate the effect of training TBAs versus other methods of improving the health delivery system.

This study could serve as an introduction to a wide variety of topics needing further investigation. A pilot project in any country to evaluate various factors involved in the utilization of TBAs could be a starting point for program development.

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Annex 2

TITLES GIVEN TO TRADITIONAL BIRTH ATTENDANTS  
AND AUXILIARY MIDWIVES

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<u>Country</u>	<u>TBA Title</u>	<u>Auxiliary Midwife Title</u>
1. Senegal	Matrone	Auxiliaire accoucheuse
2. Mali	Matrone traditionnelle	Matrone rurale
"Opération Riz"	Matrone	
3. Niger	Matrone	
4. Upper Volta	Accoucheuse traditionnelle	Matrone rurale
5. Cameroon	Accoucheuse traditionnelle	Aide-soignante/accoucheuse

## PROGRAMME DE STAGE DE MATRONES DE L'ARRONDISSEMENT

DE THIADIAYE - SENEGAL

1ère Semaine du 7/4/75 au 13/4/75

## I - LA GROSSESSE NORMALE

- 1) Examen succinct d'une grossesse normale
  - a) Examen dans les premiers mois
  - b) Examen dans les derniers mois

## II - LA GROSSESSE PATHOLOGIQUE

Les accidents pour lesquels la matrone est le plus ordinairement consultée au cours de la grossesse:

- 1) les hémorragies ou pertes de sang
  - a) les hémorragies de la 1ère moitié de la grossesse
  - b) les hémorragies de la 2ème moitié de la grossesse
- 2) le port du fœtus au cours de la grossesse
- 3) le volume exagéré de l'utérus
  - a) l'hydramiose (excès de liquide)
  - b) la gémellité

2ème semaine du 14/4/75 au 20/4/75

## ROLE DE LA MATRONE PENDANT L'ACCOUCHEMENT

- 1) Préparatifs à l'accouchement
  - a) eau bouillie (chaude, froide)
  - b) stérilisation des instruments
  - c) préparation du lit d'accouchement
  - d) toilette de la femme
  - e) désinfection des mains de l'accoucheuse
  - f) désinfection de la femme

3ème semaine du 21/4/75 au 27/4/75

## SURVEILLANCE PENDANT LA DUREE DE L'ACCOUCHEMENT

- 1) Cas où tout est normal
  - a) pendant la période de dilatation
  - b) pendant la période d'expulsion
- 2) cas où surviennent des incidents
  - a) douleurs insuffisantes
  - b) douleurs exagérées
  - c) rupture prématurée des membranes
  - d) lenteur de la dilatation
  - e) lenteur de la descente

1) Cas où il y a une présentation anormale mais non dystocique

- A) présentation du siège
- B) présentation de la face
- C) accouchement gémellaire

2) Cas où l'accouchement est dystocique

conduite à tenir devant un risque de tétanisation de l'utérus, une présentation de l'épaule, une présentation du front, une hydrocéphalie, un décollement du placenta, un placenta procevi.

5ème semaine du 5/5/75 au 11/5/75

Cas où l'accouchement se complique d'accidents variables

conduite à tenir devant une hémorragie, une procidence du cordon, une crise d'éclampsie.

6ème semaine du 12/5/75 au 17/5/75

1) La délivrance normale

2) La délivrance pathologique

- a) hémorragies
- b) rétention des membres ( conduite à tenir

3) Suite des couches normales

4) Suite des couches pathologiques

- a) complications du côté des seins (
- b) complications du côté de l'utérus (- conduite à tenir
- c) complications fébriles (

5) Toilette du bébé

6) Role de la matrone dans l'allaitement

7) Analyses d'urines

- a) recherche de l'albumine
- b) recherche de sucre

Les matrones ainsi formées assurent le fonctionnement des maternités. C'est pourquoi je m'adresse à votre organisme pour qu'elles bénéficient comme leurs autres collègues d'une prime de stage.

Veillez agréer, Monsieur le Coordinateur, l'expression de mes sentiments les meilleurs.

Signé  
LE SOUS-PREFET

**FICHE TECHNIQUE POUR LES ACTIVITES DE L'AUXILIAIRE ACCOUCHEUSE**  
**KAOLACK, SENEGAL, DR. PAPE SOULEY N'DIAYE**

**I. ACTIVITES PREVENTIVES**

**A. Consultations prénatales**

- Convocation des femmes enceintes
- Mise à jour de la fiche prénatale (en ce qui concerne les renseignements suivants:
  - Nom et prénom de la femme enceinte
  - Nom du mari
  - Profession
  - Adresse (N° code, localité)
  - Enfants vivants
  - Date (approximative des dernières règles)
  - Poids de la femme enceinte
  - Mesure hauteur utérine
  - Bruits du coeur
  - Position du fœtus
  - Eventuellement état du bassin
  - Tension artérielle
  - Examen d'urines = albumine, sucre
- Education sanitaire = thèmes choisis conjointement par la sage-femme et chef de poste
- Préparation de la femme à l'accouchement
- Mise en application de directives données par la sage-femme au cours de sa visite

**B. Consultations postnatales**

- Convocation de l'accouchée au dispensaire (avec son enfant)
- Soins au nouveau-né
  - Premiers soins après l'accouchement
    - Collyre
    - Signaler les malformations visibles à l'infirmier ainsi que toute anomalie évidente
    - Procéder après avis de l'infirmier à l'évacuation de ces cas de malformations
    - Pansements ombilicaux
    - Faire procéder à la vaccination au BCG
    - Présenter l'enfant au chef de poste pour tous les soins nécessaires.
  - Surveillance des accouchées (pendant 3 à 4 semaines)
  - Attitude à adopter en présence:
    - hémorragie importante
    - infection puerpérale
    - rétenion placentaire
    - anomalie du placenta

- Avertir et appeler au secours l'infirmier pour tout état évidemment anormal des suites de couches afin qu'il procède à l'évacuation.
- Vérifier pendant 8 jours l'état de l'utérus
- Vérifier les lochies
- Vérifier si la montée lactée est normale sinon évacuer
- Signaler toute anomalie de l'allaitement.

### C. Consultation des nourrissons

De 0 à 1 an : 3 fois par an : taille - poids - état général  
soins éventuels

De 1 à 2 ans: 4 fois par an : éducation sanitaire et nutri-  
tionnelle des mamans  
thèmes choisis conjointement par  
le chef de poste et sage-femme  
distribution de nivaquine

De 2 à 5 ans: 1 fois par an : poids - taille - état général  
soins éventuels  
distribution de nivaquine  
éducation sanitaire et nutri-  
tionnelle des mères

## II. VISITES DOMICILIAIRES

- Recensement des femmes enceintes
- Convocation pour les jours de consultations prénatales
- Enregistrement
- Prévoir les vaccinations à faire
- Etablir la composition de la famille
- Se faire présenter les autres enfants
- Noter leur âge
- Apprécier l'état de santé des membres de la famille et surtout des enfants
- Convoquer ceux qui doivent être consultés ou vaccinés

### Tâches à accomplir

- Conseils d'hygiène générale et d'alimentation de la femme enceinte (hygiène individuelle, alimentaire)
- Conseils sur des vaccinations - leur calendrier
- Contrôler les vaccinations
- Education simple sur l'assainissement du milieu (eau potable, alimentation de l'enfant, propreté de la mère et de l'enfant)
- Se renseigner sur les causes d'échec ou les causes entravant un succès suffisant.

(Situation sociale de la famille)

- Etablir un bref rapport sur les renseignements pris ou les observations faites au cours de la visite
- Préparer une seconde visite de contrôle
- Evacuation des femmes enceintes ou nourrissons malades et mener les autres malades éventuels au poste de santé (ainsi qu'autres malades éventuels: grands-parents, cousins, etc.)

### III. EDUCATION SANITAIRE ET NUTRITIONNELLE

Hygiène individuelle et collective

Hygiène corporelle (ce que la femme enceinte peut faire sans danger)

- Soins intimes
- Activités physiques et sportives, gymnastique
- Voyages
- rapports sexuels
- Sommeil, travail, etc...
- Colloque direct avec les femmes enceintes
- Hygiène alimentaire (régime sans sel, ce que la femme enceinte doit manger, ce qu'elle doit faire manger à son enfant aux différents âges)
- Hygiène vestimentaire
- Hygiène générale

### IV. VACCINATIONS

- aux nouveaux-nés = nourrissons à envoyer faire le BCG
- nourrissons: conseiller des différentes vaccinations, vérifier les vaccinations faites et celles à faire
- femmes enceintes: vérifier si la vaccination antitétanique a été faite pendant les derniers mois de la grossesse.

### V. ACTIVITES CURATIVES

- Accouchements normaux à faire à domicile ou au dispensaire  
Admission pour surveillance des femmes à la maternité rurale
- Evacuation de:
  - femmes enceintes primi gestes en travail depuis plus de 12 heures et dont la progression du bébé n'est pas satisfaisante
  - tout cas présentant une anomalie de la grossesse
  - femme en travail et pertes de sang, très anémiée, a des oedèmes
  - toute multipare en travail depuis plus de 8 heures de travail si la descente ne progresse pas.
- Soins infirmiers  
aide apportée à l'infirmière
  - soins médicamenteux à la femme enceinte, à la femme en travail, aux nouveaux-nés, à la femme après accouchement
  - distribuer des médicaments préventifs et curatifs.

Annex 4

Page 4

## VI. COLLECTE DE RENSEIGNEMENTS

qui sont communiqués au chef de poste ou à la sage-femme

### - A la maternité (et poste de santé)

- tenue à jour des cahiers de consultations prénatales
- tenue à jour des cahiers de consultations de nouveaux-nés et même de nourrissons
- tenue à jour des tableaux d'emploi du temps des graphiques des activités du calendrier des visites domiciliaires
- établissement du rapport mensuel

### - A domicile

- tenue à jour des cahiers de recensement des femmes enceintes et nourrissons
- Communication succincte de renseignements sur:
  - hygiène maternelle et infantile
  - éducation sanitaire et nutritionnelle
  - malades dépistés et évacués
  - nouveaux-nés pendant la période périnatale
  - décès à domicile des nouveaux-nés et des mères.

Annex 5

SECRETARIAT D'ETAT AUX AFFAIRES  
SOCIALES

Division du Développement  
Communautaire

GUIDE DE SOINS AUX NOUVEAUX-NES EN MILIEU RURAL

par

M. Mitchell, O.M.S.  
Ecole Secondaire de la Santé  
Bamako, 1969

EMPLOI DE TEMPS

<u>Première journée</u>	Leçon 1
	Leçon 2
<u>Deuxième journée</u>	Leçon 3
	Leçon 4
<u>Troisième journée</u>	Leçon 5
	Leçon 6
	Leçon 7
<u>Quatrième journée</u>	Leçon 8
<u>Cinquième journée</u>	Leçon 9
<u>Sixième journée</u>	Répétition de la leçon 9

Chaque leçon dure une demi-heure.

Chaque cours prendra une demi-heure .... seulement  
le neuvième cours prendra à peu près une heure  
et demie.

Une trousse à préparer

Matériel nécessaire pour constituer une trousse (sur un tissu fermé par une cordelière et assez grand pour contenir le matériel cité ci-dessous).

- 1 paire de ciseaux.
- 1 cuvette (tassa) avec couvercle.
- 1 morceau du savon pour se laver les mains.
- du fil à coudre (blanc) pour préparer les ligatures du cordon.
- 12 compresses dans un sac en plastique.
- 12 boules de coton hydrophile dans un sac en plastique.
- 6 bandes de 8 cm de largeur.
- 1 bouteille d'huile d'arachide de 30 cc.
- 1 bouteille d'Argyrol à 2°/° avec compte gouttes 20 cc.
- 1 bouteille de mercurochrome 60 cc.
- 1 bouteille d'alcool 60 cc.
- 1 boîte d'allumettes.

L'Argyrol doit être renouvelé chaque mois

La cuvette en émail (tassa) doit être assez grande pour contenir la paire de ciseaux.

## LE PREMIER CRI DE L'ENFANT

Matériel nécessaire pour la démonstration: On prendra dans la trousse préparée à l'avance le morceau de savon et le sac de plastique contenant les compresses propres

Une table.

- 1 morceau de plastique de 2m sur 1 m qui doit recouvrir la table.
- 1 poupée.
- 1 boîte avec de l'eau.
- 1 calebasse pour l'eau sale et pour les compresses sales.
- 2 pagnes propres (un pour placer sous le bébé si nécessaire et l'autre pour servir comme serviette)

### Manière de faire le cours

Le professeur range le matériel sur la table et devant les élèves.  
Il se lave les mains.

Le cours peut ensuite être présenté de la façon suivante:

"On attend avec impatience le premier cri du bébé. Il signifie que l'enfant est vivant. Habituellement le bébé crie aussitôt après sa naissance et il n'a besoin pour crier d'aucune aide.

Quelquefois si la mère a eu un travail long et pénible, le bébé est fatigué quand il est né: trop fatigué pour pleurer et il a besoin qu'on l'aide. Vous apprendrez à connaître comment se présente un bébé qui est fatigué quand il est né. C'est un bébé qui reste immobile, mou et pâle. On pourrait croire qu'il est mort, mais si vous placez vos doigts sur le cœur du bébé vous le sentez qui bat sous vos doigts.

### Que doit-on faire ?

- Il faut mettre le bébé sur le pagne plié de façon que sa tête soit plus basse que son corps et tournée sur le côté.
- Prendre une compresse et envelopper autour du petit doigt de votre main droite en ayant soin de cacher toutes les franges.
- Avec la main gauche on ouvre la bouche du bébé en lui compressant les joues.
- Quand la bouche est ouverte on nettoie doucement l'intérieur avec le petit doigt enveloppé par la compresse. En ressortant le doigt on enlève la compresse et on la jette.
- On essuie doucement le corps du bébé et on l'enveloppe dans un pagne propre afin qu'il ne prenne pas froid.
- On doit surveiller chaque mouvement respiratoire. Il commence par faire un petit mouvement respiratoire, puis l'arrête, puis recommence après quelques secondes ainsi de suite .... Avec chaque petit mouvement respiratoire l'air entre et il prend de plus en plus de force. Sa couleur change; il devient rose et il commence à bouger.
- A ce moment-là, on doit lui donner des claques sur la plante des pieds. Il a peur et il crie !!! avec force... tout va bien.

- Maintenant on va s'occuper de couper le cordon. Besoin de tranquillité et de repos.

Après ces explications, on demande à chaque femme à venir se laver les mains et de pratiquer entre elles le nettoyage de la bouche comme il a été indiqué avec la compresse devant le professeur et devant leurs compagnes.

### Deuxième cours

#### L'ENFANT OUVRE LES YEUX POUR LA PREMIERE FOIS

##### Matériel nécessaire pour la démonstration:

On prendra dans la trousse préparée à l'avance le morceau de savon, le sac de plastique qui contient les boules de coton propres et le flacon d'Argyrole avec le compte-gouttes.

- 1 table.
- 1 boîte avec de l'eau.
- 1 calebasse pour l'eau sale et pour les boules de coton sales.
- 1 morceau de plastique de 2m sur 1m qui doit recouvrir la table.
- 1 poupée.
- 1 pagne.

##### Manière de faire le cours

Le professeur range le matériel sur la table et devant les élèves; il se lave les mains.

##### Le cours peut ensuite être présenté de la façon suivante:

"Au cours du trajet que le bébé a effectué pour venir au monde, il a tenu ses yeux bien fermés. Ainsi ses yeux n'ont pas pu être abîmés. Quand il est né, on peut voir que son visage est mouillé par le liquide qui était autour de lui ou par du sang. Si maintenant il ouvre ses yeux, le liquide ou le sang va entrer dans ses yeux et il peut avoir les yeux malades.

##### Que doit-on faire ?

- Si vous étiez là quand le bébé est né vous avez dû préparer le matériel comme nous l'avons fait.
- On prend une boule de coton dans chaque main et on essuie chaque paupière en allant du nez vers les oreilles, une fois seulement.
- Aussitôt après, on met une goutte d'Argyrol dans chaque oeil. L'Argyrol est utilisé depuis très longtemps partout dans le monde, et les médecins spécialistes pour les yeux disent que c'est encore le meilleur médicament pour éviter les maladies. On ne doit pas garder l'Argyrol plus d'un mois parce qu'il devient trop fort pour les yeux du bébé.

Ce n'est pas un médicament qui coûte cher. On peut donc le jeter après un mois et aller en demander d'autres."

Après ces explications, on demande à chaque femme de venir se laver les mains et de pratiquer entre elles le nettoyage des paupières. Ensuite, couchée sur le dos chacune d'elles doit recevoir une goutte d'Argyrol dans l'oeil.

Le professeur doit expliquer comment se servir d'un compte-gouttes.

On peut discuter la méthode traditionnelle de mettre les gouttes de jus de citron dans les yeux.

Le professeur doit expliquer que le jus de citron va brûler l'oeil du bébé et il y a un grand danger d'une maladie plus grave. Cette pratique est à déconseiller.

### Troisième cours

#### LA PREPARATION D'UNE LIGATURE DU CORDON AVEC DU FIL A COUDRE

##### Matériel nécessaire pour la démonstration

On prendra dans la trousse préparée à l'avance le morceau de savon, les ciseaux, la cuvette (tassa) avec couvercle, le fil à coudre blanc, la bouteille d'alcool et les allumettes.

1 table.

1 morceau de plastique 2m sur 1m qui recouvre la table.

1 boîte avec de l'eau.

1 calebasse pour l'eau sale.

##### Manière de faire la démonstration

Le professeur range le matériel sur la table et devant les élèves; il se lave les mains.

On met le fil à coudre et les ciseaux dans la cuvette (tassa). Prendre cinq fois une longueur de fil du bout des doigts jusqu'au coude.

Plier en deux et le rouler entre les doigts et le pouce de la main droite. Faire un noeud à chaque extrémité.

La ligature doit être solide, épaisse afin de ne pas couper le cordon.

Après ces explications et la démonstration, chaque femme doit être entraînée à faire les gestes suivants:

1. comment tenir une paire de ciseaux.
2. comment couper avec les ciseaux.
3. comment laver les ciseaux avec l'eau et savon.
4. comment flamber les ciseaux dans la cuvette en émail.
5. comment préparer une ligature.
6. comment en se lavant les mains on peut aussi nettoyer les ligatures.

BIEN INSISTER SUR LA PLACE DES CISEAUX QUI EST DANS LA CUVETTE ET JAMAIS AILLEURS.

Quatrième cours

## LA LIGATURE ET LA SECTION DU CORDON

Matériel nécessaire pour la démonstration

On prendra dans la trousse préparée à l'avance le morceau de savon, les ciseaux, la cuvette (tassa) avec couvercle, deux ligatures du cordon ou du fil à coudre pour faire les ligatures, la bouteille d'alcool, le sac de plastique qui contient les compresses propres et la boîte d'allumettes.

- 1 table.
- 1 boîte avec de l'eau.
- 1 calebasse pour l'eau sale et pour les compresses sales.
- 1 poupée avec une corde d'environ 25cm; figurant le cordon ombilical.
- 2 pagnes.

Manière de faire la démonstration.

Le professeur range le matériel sur la table et devant les élèves; il se lave les mains.

- Place les ciseaux dans la cuvette en émail (tassa) et les flamber.
- Prendre dans la main droite les deux ligatures et se laver les mains et les ligatures en même temps.
- Placer les ligatures lavées dans la cuvette qui a été flambée et qui contient déjà les ciseaux.
- Couvrir la cuvette avec le couvercle.

(Répétition des deux premiers cours... c'est-à-dire on va couper le cordon après "le premier cri ... et après le bébé a ouvert ses yeux..." On attend que le battement du cordon a terminé.

- Placer la première ligature à deux doigts de l'ombilic et faire un noeud double en tirant fortement.
- Placer la deuxième ligature à deux doigts après la première ligature.

LA LIGATURE DOIT COMPRIMER LES TROIS VAISSEAUX QUI SONT DANS LE CORDON ET EMPECHER TOUTE FUITE DE SANG APRES LA SECTION

IL FAUT DONC QUE LE NOEUD SOIT SOLIDE ET SERRE

- Couper le cordon entre les deux ligatures.
- Prendre le cordon avec la compresse et entre les doigts et pouce LE POUCE, bien l'examiner: le bout du cordon doit être pâle et il ne doit pas y avoir aucune goutte de sang.
- On laisse la compresse sur le cordon jusqu'à ce que l'enfant soit baigné.
- Envelopper le bébé dans un pagne propre.

Après la démonstration, chaque femme doit venir, se laver les mains avec deux ligatures dedans et pratiquer la ligature et la section du cordon.

### Cinquième cours

#### LE PREMIER BAIN DE L'ENFANT

##### Matériel nécessaire pour la démonstration

On prendra de la trousse préparée à l'avance le morceau de savon, la bouteille de l'huile et le sac de plastique qui contient les boules de coton propres.

- 1 table. où on peut mettre un morceau de plastique de 2m sur 1m sur une natte et travailler sur la natte.
- 1 seau d'eau chaude. (Pour assurer que l'eau n'est pas trop chaude, mettez le coude dans l'eau et laissez l'eau couler sur le bras)
- 1 pagne propre ou une serviette pour poser le bébé et l'essuyer.
- 1 petite calebasse pour servir comme louche.
- 1 grande calebasse ou une cuvette pour servir comme bain.
- 1 petite calebasse pour l'eau sale et pour les compresses sales.

Ce matériel doit être préparé dans un coin de la pièce à l'abri des courants d'air mais aussi d'une façon à être vu par la maman qui peut "voir et apprendre".

##### Manière de faire la démonstration

- On commence par laver le visage du bébé avec la main droite et on l'essuie avec le pagne ou la serviette.
- On ne remouillera plus le visage du bébé et il faudra résister à la tentation (traditionnelle) de lui faire boire d'eau du bain.
- Essuyer le corps du bébé avec un peu d'huile pour enlever la subsistance blanche qui le couvre.
- Savonner le bébé entièrement sauf son visage.
- Placer doucement l'enfant dans l'eau en soutenant sa tête avec la main gauche.
- Rincer le bébé à l'eau propre.
- Essuyer le bébé et l'envelopper dans un pagne propre.

Après ces explications et la démonstration, les femmes viennent se laver les mains et faire le bain de la poupée. Que doit-on faire avec les compresses sales ?

- On doit les enterrer.

### Sixième cours

#### PANSEMENT DU CORDON

##### Matériel nécessaire pour la démonstration

On prendra dans la trousse préparée à l'avance le morceau de savon, la cuvette (tassa), les ciseaux, la bouteille d'alcool, la bouteille de mercurochrome, le sac de plastique qui contient des compresses et une bande.

- 1 table.
- 1 morceau de plastique de 2m sur 1m qui doit recouvrir la table.
- 1 boîte avec l'eau
- 1 petite calebasse pour l'eau sale et des compresses sales.

Manière de faire le cours

Le cours peut ensuite être présenté de la façon suivante:

"Le bébé est la récolte après neuf mois de culture .... Le petit morceau de cordon qui reste attaché sur son ventre est maintenant comme une tige qui doit se dessécher et mourir. Si on le laisse pas sécher, le cordon, il ne peut pas tomber vite. Par le cordon qui ne sèche pas et qui ne tombe pas, il peut entrer des maladies et le bébé en bonne santé il faut donc que le cordon sèche et tombe rapidement. Pour cela, le cordon doit être toujours gardé sec et propre.

Toujours garder le cordon SEC et PROPRE.

Si le cordon est sec et propre il est sans odeur.

Manière de faire la démonstration

- Après le bain, on nettoie le cordon avec une compresse alcoolisée pour enlever toute trace d'eau: AINSI LE CORDON est SEC.
- On badigeonne le bout du cordon avec du mercurochrome: AINSI le cordon est PROPRE.
- On applique une compresse propre et on met une bande pas trop serrée parce que le bébé se sert des muscles de son ventre pour respirer.
- Si on est sûr que la maman saura tenir son enfant bien propre, on laisse le cordon à l'air sans mettre de pansement. Il va tomber vite.
- Chaque jour on viendra voir que le cordon sèche bien.
- On ne baignera plus l'enfant jusqu'à ce que le cordon soit tombé - ce que se produira si on a bien suivi les conseils (CORDON SEC et PROPRE) au bout de 4 à 5 jours. Si le cordon ne sèche pas, il a une mauvaise odeur et il mettra plus de temps pour tomber. Il faut alors chaque jour le nettoyer avec de l'alcool et éviter qu'il ne soit pas mouillé par les urines".

Après ces explications, les femmes doivent se laver les mains et venir apprendre à faire un badigeon de mercurochrome et un petit pansement tenu par une bande.

Septième cours

## LA PREMIERE TETEE DU BEBE

Le cours peut être présenté de la manière suivante:

"Le lait de la mère est l'aliment idéal pour l'enfant. Il lui donne pendant les premiers six mois tout ce qui est nécessaire pour grandir et se fortifier.

Les premiers jours, le bébé et la maman sont tous les deux fatigués. Le bébé a besoin de repos et pour lui le repos à ce moment-là est plus important que la nourriture. On doit donc le laisser dormir.

Au contraire, la maman a durement travaillé et elle a besoin de repos et aussi de nourriture avant de se reposer. Le repas traditionnel est excellent pour elle. Si elle a perdu beaucoup de sang, elle a besoin de boire des tisanes sucrées. Quand le bébé pleure, la maman peut lui donner à téter, il y a seulement un peu de liquide dans les seins mais il est sucré et il protège le bébé contre quelques maladies. Si le bébé est trop petit, ou trop fatigué, la maman doit presser ses seins et recueillir le lait dans une petitealebasse propre et le donner au bébé. "Quand il sera plus fort, il saura téter tout seul".

Insister sur le fait que le lait maternel ne suffit pas après le sixième mois. On doit habituer l'enfant à prendre les bouillies.

#### Huitième cours

##### DISCUSSIONS SUR LES SOINS TRADITIONNELS

- Le rasage.
- La percée des oreilles.

Le professeur devra montrer que ces coutumes peuvent présenter un danger pour la santé de l'enfant.

Il faudra aider les femmes à trouver que ces deux pratiques peuvent provoquer une plaie qui va laisser entrer des maladies graves.

Que doit-on faire ?

Il faut diminuer le risque de maladie pour l'enfant et conseiller l'utilisation de matériel propre, flambé si possible suivi d'une application de mercurochrome.

Il y a des autres coutumes ..... par exemple la circoncision.

Que doit-on faire ?

#### Neuvième cours

##### SOINS AUX NOUVEAUX-NÉS EN MILIEU RURAL

##### Matériel nécessaire pour la démonstration

On placera la trousse préparée à l'avance sur la table:

- 1 table.
- 1 morceau de plastique de 2m sur 1m qui doit recouvrir la table.
- 1 boîte avec l'eau.
- 1 seau avec l'eau chaude.
- 1 petitealebasse propre pour servir comme louche.

- 1 cuvette ou une grandealebasse pour servir comme bain.
- 2 pagnes propres.
- 1 poupée avec un cordon attaché.

Manière de faire le cours

Le professeur range le matériel contenu dans la trousse préparée à l'avance sur la table et devant les élèves il se lave les mains.

L'enfant est né

- ... On prépare pour "le premier cri du bébé ..... voir leçon 1
- ... Il va ouvrir ses yeux pour la première fois .. voir leçon 2
- ... On va ligaturer le cordon et le couper ..... voir leçon 4
- ... On donne le premier bain ..... voir leçon 5
- ... On fait le pansement du cordon ..... voir leçon 6
- ... On donne le conseil à la maman ..... voir leçons 7&8.

Après la démonstration par le professeur, les femmes sont invitées à partager les soins entre elles et les répéter devant le professeur.

.....  
\_\_\_\_\_

N I G E R

NATIONAL GUIDELINES FOR TBA TRAINING COURSES (\*)  
(TO BE REVISED ACCORDING TO LOCAL NEEDS)

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1. Notions of anatomy - bones, muscles, skin
2. Hygiene - body, clothing, food and concessions
3. Pregnancy (a) development of fetus (b) role of placenta  
(c) exterior signs of pregnancy (d) risks of miscarriage
4. Notions of food
5. Sexual organs
6. Woman in labor (a) dystoci cases to send to dispensary  
(b) delivery (c) placenta
7. After delivery (a) for the mother (b) for the baby
8. Nourishment of the baby - exceptional cases.

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(\*) Prepared by WHO/Niamey.

At time of research, the guide was not yet officially approved and printed.

## Annex 6 A

## PROGRAMME DE FORMATION DES MATRONES

Service participant : Santé - Animation

Nombre de villages : 14

Nombre de matrones : 14

Total à former : 14

Dates	Matin	Soir
1er jour	Contrôle de présence Ouverture officielle par le Sous-Préfet Rôle de la matrone Hygiène de l'eau " vestimentaire " corporelle " concession	Révision
2ème jour	Anatomie de la femme Explication du contenu du livret	Révision
3ème jour	La femme enceinte	La femme enceinte Révision
4ème jour	Révision	Révision
5ème jour	Les complications de la grossesse	Révision
6ème jour	Accouchement (théorie)	Pratique sur mannequin
7ème jour	Exercice avec la trousse	Pratique sur mannequin
8ème jour	Révision	Révision
9ème jour	Tenue du cahier de naissance	Révision
10ème jour	Soins à donner à l'enfant et la mère	Révision
11ème jour	Ce qu'il faut évacuer	Révision
12ème jour	Révision	Révision
13ème jour	Alimentation et sevrage	Suite
14ème jour	Démonstration bouillies	Diarrhées-conjoncti- vites - traitement
15ème jour	Clôture officielle Retour au village (matrones)	

Ouallam, le 3 avril 1976

## Annex 6B

## 1976 SURVEY OF FIRST-AID AGENTS (SECOURISTES), NIGER

Department	Total No. of secourist	Villages without secourist	Month - Year	
			Training	Retraining
Agadez	47	2	74	75
Diffa	106	1	71-76	75
Dosso	117	14	72-76	73-76
Maradi	400	41	66-76	72-76
Niamey	407	50	65-76	72-76
Tahoua	-	-	-	-
Zinder	220	23	69-76	72-76
Total	1,297 <sup>(i)</sup>	131 <sup>(ii)</sup>		

Source: WHO/Niamey

(i) With Tahoua included, the total could be estimated at around 1,500.

(ii) The researcher questions the accuracy of this figure.



TBA TRAINING PROGRAM TOPICS

UNESCO PROJECT - PO, UPPER VOLTA, MAY 2-30, 1973

Health Education

Preparation of charcoal filter

Tetanus

Motions of first-aid

Diseases of the region

Parasites and microbes; work at microscope

Use of latrines

Practical hygiene: sterilization by heat

Accidents: broken bones, poisoning, drowning, etc.

Hygiene of the environment

Infant diseases: working session on disinfection

Hygiene of mother and child

Vaccinations

Nutrition

The different food groups and their role

Preparation of enriched baby foods

Composition of a complete meal

The weaning period

Domestic Skills

The family, marriage

Macramé

Ironing

Clothing repair

Clothes washing

Control of purchasing

Fabrication of indigenous soap

Sewing: nurses apron

Civics

State Rights

Importance of school instruction

Savings accounts

Administration and political organization of the  
Republic of Upper Volta

Taxes

The role of ORD (i)

The role of the police

Organization Skills

How to organize discussion groups

Collective tasks of the village

Childcare centers

Product commercialization

Co-operatives

Technical Skills for TBAs

How to use midwifery kit

Hygiene of pregnancy

The role of the TBA

Advantage of delivering at the maternity

Consultations at PMI (ii), role of PMI

The collaboration of TBAs

Complications of childbirth

Sterilization of instruments

Agriculture

Practical gardening

Collective fields

New agriculture techniques

Miscellaneous

The rural exodus

Family animal husbandry

History of the region

Dangers of illiteracy

(i) ORD is the acronym for regional development organizations which is a geographic unit linked to the administrative prefecture, and charged with production and economic development.

(ii) PMI = Maternal and Child health centers.

MATERNITY TRAINING PROGRAM  
UNESCO PROJECT - PO, UPPER VOLTA, 2-30 MAY, 1973

First Group: May 4-9

Position of baby: normal cases, difficult cases  
Difficult cases to evacuate  
Termination of pregnancy (participation in maternity activities)

Second Group: May 10-15

Possible illnesses of the pregnant woman, urine analysis  
Enema  
Use of "la sonde urétrale" (participation in maternity activities)

Third Group: May 16-21

Different techniques to employ during childbirth  
Stages during labor  
How to speed labor (participation in maternity activities)

Fourth Group: May 22-27

Use of instruments for delivery  
The umbilical cord  
Care of newborn baby (participation in maternity activities)

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## Annex 7 B

BUDGET FOR TBA TRAINING PROGRAM  
UNESCO PROJECT: PO, UPPER VOLTA

(all figures in francs CFA)

<u>Description</u>	<u>Budget Appropriation</u>	<u>Actual Expenditure</u>
I. PER DIEM TO TRAINEES	<u>108,300</u>	<u>77,340</u>
Accommodation expenses	96,000	74,200
Petrol	1,000	
Pots	900	
Water	2,000	
Mats	6,400	
Sékos	2,000	
Pharmaceutical expenses	-	3,140
II. EDUCATIONAL EXPENSES	<u>18,400</u>	<u>26,870</u>
Rolls of string	6,000	6,620
Wooden handles	3,200	6,800
Hygiene	3,000	6,950
Nutrition	4,000	2,400
Audio-visuals	1,200	4,100
Literacy	1,000	-
III TRAINING EXPENSES	<u>57,000</u>	<u>45,975</u>
Accommodation expenses of professional staff	45,000	40,975
Accommodation expenses of drivers	12,000	5,000

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LIST OF CONTENTS FOR TBAs MIDWIFE KIT

NIGER, DEPARTMENT OF NIAMEY

1 bottle of alcohol  
5 bottles with dripper for Argyrol (eye-lotion)  
Argyrol  
1 plastic sack for cotton, compresses or percale  
cotton, compresses or percale  
gauze bands or percale  
2 towels  
thread from market  
plastic mat 120 x 120 cms  
1 pair of scissors or razor blades  
2 bars of soap  
1 notebook, 2-3 ballpoint pens

UNESCO PROJECT, PO, UPPER VOLTA

The box is 50 x 35 x 15 cms constructed from plywood and with three interior compartments.

1 white oil cloth 1 m x 1 m  
1 white enamelled tray  
1 pair of scissors  
1 pair of clamps (ligatures)  
1 bottle of tying string (glass bottle filled 3/4 with ties imerged in 90° alcohol)  
1 bottle of alcohol  
1 bottle of collyre (eye-lotion)  
1 package of gauze compresses  
1 package of gauze bandages  
1 package of cotton  
1 flashlight  
1 notebook for birth registration  
1 ballpoint pen

LIST OF PERSONAL CONTACTS

**SENEGAL**

Dakar

- Ms. K. Leitner, UNFP, United Nations Program Officer
- Dr. Marc Vincent, USAID, Health
- Dr. Eugene Lerner, Sociologist, Ministry of Human Promotion
- Mr. Jack Schaffer, Peace Corps
- Miss Labrachery, WHO Nurse
- Mrs. Camara, Sociologist, FAN
- Mrs. Sow, Sociologist, FAN
- Mrs. N'Da, Midwife, Ecole des Sages-femmes, Hôpital Aristique Le Dantec
- Mr. Samaké, Program Officer, UNICEF
- Miss Jacqueline Perron, WHO Nurse, CESSI
- Dr. Sanokho, Institut de Pédiatrie Sociale, Université de Dakar
- Mrs. Fatou Kini N'Diaye, Ministry of Health
- Prof. Correa, Directeur de la Maternité Africaine, Faculté de Médecine et Pharmacie de Dakar

Thiès Region

- Mrs. N'Diaye, Midwife, Thiès Maternity
- Dr. Coly, Médecin-Chef, Khombole Health Center
- Miss Astou Koaté, Assistante Sociale, Centre de Pédiatrie Sociale, Khombole
- Touba-Toul Rural Maternity: Three TBAs
- N'Goundiane Rural Maternity: Two TBAs

Sine-Saloum Region

- Dr. Pape Soulay N'Diaye, Directeur Régional de la Santé, Kaolack
- Mr. Niang, Responsable Politique pour l'Arrondissement de Kaoun
- Mrs. N'Diaye, Midwife, Centre de la Santé Kasnack, Kaolack
- Gagnic Rural Maternity: One Auxiliary Midwife
- Wardiakhal Rural Maternity: One Auxiliary Midwife
- Mbadakhoun Rural Maternity: Two TBAs
- N'Diabel Health Post: Six Auxiliary Midwives (PMI-Mobile Team)
- Loul-Sessesse Health Post: One TBA

MALI

Bamako

- Dr. Sangaré, Directeur du Cabinet, Ministry of Health
- Dr. Seydou Ousmane Diallo, Médecin-Chef de la Division de la Santé Familiale, Directeur Général Adjoint de la Santé Publique
- Dr. Samba, Médecin-Coordinateur de la Région de Bamako
- Dr. Sory Ibrahim Kaba, Médecin-Coordinateur de la Région de Tombouctou
- Tony Carvalho, UNICEF
- Miss Edith Matte, WHO Public Health Nurse, Project Mali/SHS/001
- Mrs. Diawarra, Midwife, Ecole Secondaire de la Santé Publique
- Mrs. Dolo Fatou Cissouma, Midwife, WHO
- Mrs. Sy, Midwife, Hôpital Gabriel Touré

Ouelessebougou Training Center

- Mr. Gaoussou-Togo, Director of Training Center for Rural Matrons
- Mrs. Camara, Midwife
- One Traditional Birth Attendant

Sikasso

- Dr. A. Diallo, Directeur Régional de la Santé Publique, Hôpital de Sikasso
- Mrs. Diallo, Midwife, Hôpital de Sikasso

Ségou

- Dr. Barahy Coulibali, Médecin-Chef de la Région, Hôpital de Ségou
- Mrs. Diawarra, Chef de Service du Développement Communautaire, Opération Riz, Ségou

NIGER

Department of Niamey

- Dr. Ibrahim Abdou, Médecin-Chef, Department of Niamey
- Mr. Amadou Boukary, Infirmier d'Etat, Department of Niamey
- Mr. Wally Cox, Director of CARE
- Nel Derik, Midwife, Oullam
- Mrs. Dupuis, Director of Social Affairs and PMI, Ministry of Health
- Laoualy Haladou, Animation, Department of Niamey
- Mr. Bagnou Idrissa, Director of Animation

- Mr. Boubacar Issa, Director, Enseignement de l'Education Sanitaire et de la Nutrition (DEESN), Ministry of Health
- Mrs. Kansaye, Head of Animation, Niamey Arrondissement
- Mrs. Djibo Maïouna, Animatrice, Oullam
- Judy Major, Health Training Director, Peace Corps
- Miss Ky Nguyen, WHO Nurse/Midwife, Ministry of Health
- Dr. Talfi, Director, Division of Hospitals, Ministry of Health
- TBAs: Eight TBAs in Niamey Arrondissement
- Dr. Wright, Secretary-General of Health, Ministry of Health

#### UPPER VOLTA

##### Ouagadougou

- Mrs. Atijan, WHO Public Health Nurse, Ministry of Health
- Delphine Bere, Midwife, Maternity Yangado (plus six other midwives)
- Dr. Compore, Director General, Ministry of Health
- Josephine Gissou, Sociologist, Société Africaine d'Etudes et de Développement (S.A.E.D.)
- Dr. Kambiré, Director of Professional Training, Ministry of Health
- Dr. Keyelem, Director General of Public Health, Ministry of Health
- Scholastique Korpaore, UNESCO Project Director, Egalité d'Accès des Femmes et des Jeunes Filles à l'Education
- Mrs. Ivanka Markovic, WHO Nurse, Ministry of Health
- Dr. F. Martin-Samos, WHO Representative
- Brenda McSweeny, Assistant Representative of UNDP
- Cynthia Moore, Peace Corps Volunteer
- Dr. Max Nebout, Ministry of Health
- Mrs. Traoré, State Minister of Social Affairs, Ministry of Social Affairs
- Mrs. Troué, UNICEF
- Mike Wiest, Director, Catholic Relief Organization
- Jeanne Zongo, President of the Upper Volta Women's Confederation.

Yako

- Dr. Gouirrier, Médecin-Chef, Yako Medical Center
- State Nurse

Fada-N'Gourma

- Dr. Mary Françoise, Frères des Hommes, Fada-N'Gourma Regional Hospital
- One Auxiliary Midwife (matrone rurale)

Kongoussi

- Mr. Gabriel Ouedraougo, UNESCO Center
- Mrs. Sawadogo, Nurse/Midwife, Kongoussi Medical Center
- Two TBAs in Yalka (near Kongoussi)

US DEPARTMENT OF HEALTH

CAMEROON

Yaounde

- Dr. Akane, Chief of Service of Rural Medicine and Public Health Demonstration Zones (DASP)
- Mrs. Awasum, Chief of Health and Nursing Personnel Training Service, Ministry of Health
- Dr. Abdoulaye Souaibou Bobo, Director of Public Health, Ministry of Health
- Dr. Bowen, Chief of Maternal and Child Health Service (PMI)
- Dr. Candy, Catholic NUN, USAID Consultant
- Dr. Dackey, WHO Representative, Ministry of Health
- Jane Guyer, Anthropologist
- Dr. Al Henn, Health Nutrition and Population Division, RDO/Yaounde, USAID
- Liz St. Hilaire, Director of CESSI
- Dr. Dan Lantum, Coordinator of the Public Health Unit, University Center for Health Sciences (CUSS)
- Dr. Mafiamba, Deputy Director of Health, Ministry of Health
- Mrs. Mimbang, Midwife, Health and Nursing Personnel Training Service, Ministry of Health
- Mrs. Moumlom, Director, National School of Nursing, Midwifery and Sanitary Engineering
- Dr. Boniface Nasah, Chief, Obstetrics/Gynecology, CUSS/Central Hospital

- Mr. Ndoney, Director of Community Development, Ministry of Agriculture
- Mr. Norrel Noble, Peace Corps Assistant Director/Health
- Dr. Robert Nzhie, Director of Research and Statistics, Ministry of Health
- Mr. Franklin Rakotoarivony, UNICEF Resident Administrator

Bamenda

- Dr. Yongbang, Provincial Medical Officer, Obstetrics/Gynecology, Bamenda Hospital
- Rebecca Chie and Mrs Ordellia Kukun, Midwives at School of Nursing and Midwifery
- Manko Health Center
- Mamboh Health Center
- One Traditional Midwife, Bamenda

Ekoko II and D'Ekali I

- Seven Traditional Midwives

DEMOGRAPHIC STATISTICS: SENEGAL, MALI, NIGER,  
UPPER VOLTA, CAMEROON

Country	Population			Percent Population growth rate	Crude birth rate per 1,000	Crude death rate per 1,000	Population density per km <sup>2</sup>
	1975 (in mil- lions)	Percent rural	Percent urban				
Senegal	4,418	71.7	28.3	2.43	47.2	22.9	25 .
Mali	5,697	86.6	13.4	2.5	49.4	24.0	4.4
Niger	4,592	90.5	9.5	2.75	51.7	24.1	4
Upper Volta	6,032	91.7	8.3	2.0	47.9	24.8	22
Cameroon	6,400	75	25	2.1	43.0	23.0	13.8

Source: WHO/Brazzaville

**SUMMARY OF TRAINING PROGRAMS FOR TRADITIONAL BIRTH ATTENDANTS  
IN SENEGAL, MALI, NIGER, UPPER VOLTA AND CAMEROON (\*)**

Annex 11

Country	General Information			Selection Criteria		Activities							Incentives		Other Elements of Program			
	Year	Length of Training	Number completing training	Qualifying TBA within village	Age	Other	Personal instruction	Education	Health education	Health supervision	Maternity supervision	Maternity pharmacy	Maternity clinic	Maternity kit	Maternity kit payment	Maternity kit payment	Supervision	Observations
<b>SENEGAL</b>																		
1. Khombole	1968-1970	15 days	195	x x	35-65		x	x	x	x	x	x	x	x	x	x	- Rural maternity TBAs supervised by state nurse - Village by village supervision is difficult.	- Some TBAs work at rural maternities on 48 hour shifts. - Prenatal examinations are conducted at rural maternity every 15 days by a midwife - UNICEF stipend.
2. Sabak Catholic Mission	NA	NA	50	x x	30-65		x	x	x							x	- Comes to the Mission once every two months on Saturday for retraining.	- 150 CFA per delivery, 50 CFA is for Mission to replace supplies.
<b>MALI</b>																		
1. Sikasso Region TBAs	1962-1965	3 months	NA	x x	NA		x	x								x	- Nearest health unit/midwife.	- Some are integrated into the health team at rural maternities; work 24 hour shifts; are paid 500 MF per delivery.
2. Sikasso Region Future TBA Training Program	NA	3 months		x x	30-40	One from each village	x	x	x							x	- Auxiliary midwife at rural maternity will supervise TBAs within 15 kms. radius	- Perhaps will construct village maternities.
3. Ségou Region Operation Riz	1974-1975	2 weeks	99	x x	30-40	select two TBAs (1) practicing (2) younger, inexperienced woman	x	x	x							x	- Community development team	- Component of a rural development project for rice production - Retrained for one week every year. - 500 MF for each delivery.
<b>NIGER</b>																		
	1965-1970	10 - 15 days	1,000	x x	30-40	-Literate if possible -Permanently in village -Physically capable -One to two TBAs per village	x	x	x							x	- Mobile team of health and animation. - Dispensary supervises radius of 15-20 kms only.	- Member of village health team - 18 TBAs integrated into PHU/maternity; some receive salary from Health Ministry.
<b>UPPER VOLTA</b>																		
<b>1. UNESCO</b>																		
a) Present Project	1964-1970	4 weeks	96	x x	30-40	-Some who can serve a long time -Influence on both men and women -Two TBAs for each village	x	x	x	x	x	x	x	x	x	x	- UNESCO community development agents (non-trainers)	- Total of 18 village maternities - TBA should also be a community development agent
b) Proposed Project	971	4 weeks	150 per year or 750	x x	30-40		x	x	x	x	x	x	x	x	x	x	- Health personnel and UNESCO staff	- TBA will be responsible for simple village pharmacy. - Plan to build village maternities.
<b>2. Konqoussi Medical Center</b>																		
	1970	2 weeks	16	x x	40-65	one TBA for each village	x	x	x	x	x	x	x	x	x	x	- Mobile health education team composed of one nurse, 1 midwife, 1 health educator, 3 auxiliaries, every 15 days	- Team will not supervise UNESCO TBAs. - Plan to build village maternities.
<b>3. Fada-N'Gourma Regional Hospital</b>																		
	1975	10 - 15 days	8	x x	40-65	Personal instruction	x	x	x							x	- Occasional visits by health personnel. - Auxiliary midwives at rural maternities.	- Supervision difficult due to widely dispersed communities.
<b>4. Yako Medical Center</b>																		
	1974-1975	3 months	30	x x	30-40		x	x	x							x	- Occasional visits by health staff - Presents birth registry to hospital for replenishment of medical supplies and birth certificates	
<b>CAMEROON</b>																		
Douaoua	1970	4 weeks	170	x x	15-35	Must live near a maternity - Recruited by 100 sanitary agents	x	x	x							x	- Presents birth registry to nearest health post to replenish medical supplies.	- When doctor left, the program stopped. - TBA expected money payment.

(\*) Chart is limited to those programs visited or discussed, others may exist.