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PRIMARY HEALTH CARE IN THE PASTORAL ZONE

Preliminary Report

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TABLE OF CONTENTS

	<u>Page</u>
I. <u>INTRODUCTION</u>	1
II. <u>THE HEALTH NEEDS OF THE HERDERS</u>	2
1. The context	2
2. The diseases	5
3. Nutrition	8
4. Utilisation of the health services ..,.....	9
5. The selection of measures to be applied	10
III. <u>PRIMARY HEALTH CARE IN THE PASTORAL ZONE</u>	12
1. Three training programmes for health auxiliaries/herders	12
1.1 The Bermo-Dakoro training programme	12
1.2 The In Gall training programme	14
1.3 The Tchin Tabaraden training programme ...	15
2. Difficulties encountered and teaching	22
2.1 Identification and localisation of the communities	22
2.2 The receptivity of the herders	23
2.3 The training	24
2.4 The movements of the health auxiliaries in relation to the dispensaries to which they are attached	29
2.5 The supplying of drugs	30
2.6 Motivation and due recognition of the health auxiliary	33
2.7 The relations between the health auxiliaries and traditional practitioners	35
IV. <u>CONCLUSION AND RECOMMENDATIONS</u>	37

- AES : "Auto-Encadrement sanitaire" - National Primary Health Care Programme. This programme in Niger is based on the Village Health Teams (VHT).
- CM : "Centre médicale" - Medical Centre. A health care unit of referral at the district ("arrondissement") level.
- DDS : "Direction départementale de la Santé" - Office of Departmental Health.
- EDHMM : "Equipe départementale d'Hygiène et de Médecine mobile" - Departmental Mobile Team for Hygiene and Medical Care. Service responsible for vaccinations at the department ("département") level.
- Health auxiliary ("secouriste") : "A man or woman of medium age, in good physical condition and, if possible, literate, a native of the village, an unpaid volunteer, chosen for his or her good moral character and great availability." *
- The health auxiliary is recruited from among the local population and does not receive any remuneration. He (or she) is given one week of training at the Medical Centre where he learns how to treat common diseases and complaints. He is equipped with a wooden crate containing the following drugs and medical supplies : chloroquine, aspirin, charcoal, sulfaguanidine (Ganidan), ophthalmic ointment of chlortetracycline (Aureomycine), ophthalmic drops of Argyrol, methylene blue, mercurochrome, nose drops, gauze bandages and cotton wool.
- He is also given a notebook in which he records the consultations.
- ILP : Integrated Livestock Project. Successor project to the Niger Range and Livestock Project.
- PMI : "Protection maternelle et infantile" - Maternal and Child Health (MCH). The national Maternal and Child Health Programme includes antenatal consultations and consultations for newborns.
- TBA : Traditional birth attendant ("matrone"). Usually she is an already experienced TBA who follows one week of training at the Medical Centre. She learns to deliver babies and to make cord dressings. She is equipped with a UNICEF kit to which she adds thread and a razor blade which are purchased by the mother before delivery.
- VHT : Village Health Team ("Equipe de Santé villageoise - ESV"). Each VHT is composed of 2 health auxiliaries and of 2 traditional birth attendants (TBA).

* L'Auto-Encadrement sanitaire, Méthodes de Formation des Agents de Santé de Village, Republic of Niger, 1980

I. INTRODUCTION

For more than 15 years, Niger has been developing a National Primary Health Care Programme ("Auto-Encadrement sanitaire"). The training of voluntary health auxiliaries ("secouristes") and voluntary traditional birth attendants ("matrones"), who are chosen from the local communities and who compose the Village Health Teams (VHT), forms the basis of this programme which is in full expansion in the rural agricultural areas.

In the pastoral zone, situated more to the north, VHTs have also been formed in communities of herders*. However, at the moment, their number remains very limited. In view of the mobility of the herders and of the low population density in this region, primary health care as it was conceived for the villages needs to be modified and adapted to the conditions prevailing in the pastoral zone.

The objective of the present study is to propose measures which could be implemented to meet the specific health and nutritional requirements of the herders and to suggest improvements aimed at promoting the development and expansion of the National Primary Health Care Programme in the pastoral zone.

This study is based on the survey results presented in the report "Health and Nutrition in a Group of Wodaabe (Bororo) Herders in Central Niger" and on the field observations made over a period of more than one year. It also draws on the experience gained during the training and subsequent supervision of the herders-health auxiliaries in the District ("Arrondissement") of Tchén Tabaraden (Tahoua).

* The term "herders" refers specifically to nomadic herders.

II THE HEALTH NEEDS OF THE HERDERS

1. The context

The pastoral zone has four seasons : a short rainy season from July to the end of August; a short hot season from September to the end of October; a cold season from November to February and a hot season from March to June.

The irregular and low rainfall makes this region unsuitable for cultivation. Only the breeding of livestock is feasible and is practised on a transhumant basis in which the men and their herds must move according to the availability of pastures and water.

Most of the herders in the pastoral zone are Twareg and Fulani. In the north there are also Arab herders and in the east of the country Tubu herders. Herders, whose number was estimated at more than 750,000 in Niger in 1979 (Five Year Plan), represent 14% of the country's population and are distributed over large areas, hence the low population density (2.5 inhabitants/km²).

The extreme climatic variations registered in the course of a year profoundly modify the environment and mark the lives of the men and their herds by the constraints which they impose. As a result, the movements, the work and the diet of the herders vary greatly from one season to another.

The movements

The movements of the transhumance during the rainy season vary from one community of herders to another. Although the general tendency is to go from south to north, it is far from being the rule for everyone. At the same time as they seek better pastures for their animals, herders will follow preferred routes year after year. As soon as the rains stop, they return to the regions where they habitually spend the dry season.

Should the pasture-lands prove to be inadequate, they can then change places. However, each community has a region to which it is attached and to which it returns each year.

The changing of camp sites with respect to the wells is primarily conditioned by their surrounding pastures. During the rainy season, the camps are sited near the ponds which constitute the source of water supply for both man and his livestock.

During the dry season, the water is drawn from the wells and the camps are set up a few kilometers away. As the pasture-lands near the wells disappear, having been grazed on by the animals, the camps are placed further away from the wells. This centrifugal movement is particularly noticeable with the Wodaabe herders. In May, 60% of the camps are situated at more than 10 km, and some as much as 20 km, away from the wells. Consequently, the camps and communities become far more scattered at the end of the dry season.

The work - the activities

A herd needs to be watched over and attended to every day. The herder cannot go away and leave his animals for they must have food and water. These constraints are particularly strong in the months from March to June. During this period, the heat and the distance of the camps from the wells place a heavy burden on the herders who have to ensure the regular watering of the animals. The animals are thirsty and the task of drawing water, therefore, becomes more demanding; shallow sand wells must be bored and regularly cleaned out. The women and children are responsible for supplying the camp with water.

Every day the women make the trip to the wells. As there is a lack of milk, a greater quantity of cereal (millet or sorghum) must be ground and the work of the women is therefore increased.

This increase in the work load of the adults reduces their free time. Consequently, they can give less attention and care to the children.

During the rainy season, camp sites are changed more frequently but the animals are watered at the ponds, which does not require any work. The camps are sited near the ponds and the availability of water is at its maximum. Milk is abundant and it is no longer necessary to grind millet. It is the best time of the year, a time when families meet, when ceremonies are held for marriages and the naming of children.

The diet

The diet of the herders is based on milk and cereals (millet, sorghum, fonio, rice). During the two months of the rainy season, it may include only milk. As soon as the pastures become dry (September), milk becomes less abundant and cereals are gradually introduced. As the dry season progresses, the production of milk diminishes and the consumption of cereals increases. In April-May, the cows* no longer give milk. The diet of the herders is then composed almost entirely of cereals. Because they are used to eating millet mixed with milk, they find it difficult to ingest sufficient quantities of millet paste to meet their nutritional requirements, which are greatly increased because of the amount of work during this season.

The prices of cereals bought on the local markets undergo important fluctuations. For example, the price of a 100 kg sack of millet on the Tchib Tabaraden market rose from 7,000 CFA (\$24.00) in November 1980 to 30,000 CFA (\$103.00) in June 1981. The herders are thus forced to buy cereals at a high price and at a time when their consumption is at its highest. On the other hand, the main source of revenue of

* However, camels and goats continue to give appreciable quantities of milk during this season.

the herders comes from the sale of their animals which, in this season, are undernourished and emaciated. Their selling price on the markets is greatly reduced. The herders thus find themselves in the unfavourable situation of having to sell their animals at a low price in order to buy cereals at a high price.

Meat is not a staple food of the herders. It is eaten only occasionally, in particular during the rainy season at celebrations for marriages and naming ceremonies. Meat consumption also increases towards the end of the dry season when the animals are weak or exhausted. The herders become obliged to slaughter some of the animals before they die so as not to lose the meat.

2. The diseases

Epidemiological data regarding the herders are practically inexistent and this had led to a number of preconceived and erroneous ideas regarding their health and nutrition. Although their mobility protects them against certain diseases related to crowded living conditions and permanent dwellings, they are nevertheless affected by epidemics. The transmission of diseases from one camp to another takes place at meeting points such as the wells or the markets. Measles and whooping cough regularly affect the children. Only some years ago, smallpox was still so well known that the herders practised traditional variolation; and the spread of cholera into West Africa in 1970 and 1971 did not spare the herders.

However, the fact that the camps are scattered probably delays and limits the progression of epidemics, particularly those, such as meningitis and measles, which are related to a certain seasonal environment. Nevertheless, the gradual opening up of the region, as a result of the development of the road network, and the increase in seasonal emigration towards the countries on the Coast have accelerated the movement and intermingling of populations with undeniable epidemiological effects.

A longitudinal survey conducted for a period of one year under the auspices of the Niger Range and Livestock Project has clearly shown the importance of the seasonal factor on the distribution of common diseases.* With the appearance of mosquitos during the rainy season and the months that follow, fever is the predominant complaint. In August, fever represents 55% of reported illness in children under 5 years of age. Malaria is rare during the rest of the year, for as soon as the surface waters disappear, so do the mosquitos. In the cold season one observes a recrudescence of pulmonary diseases (59% of the children cough) related to the small amount of protection the herders have against the cold. With the heat and the low availability of water during the months from March to June, the prevalence of diarrhoea increases (44% in May compared to 12% in November). Skin diseases and conjunctivitis are present throughout the dry season. Measles occur in relatively limited epidemics. Thus only 15% of the children under 10 years of age are reported by their parents as having contracted the disease.

The various diseases contracted by the adults present a similar variation in prevalence, and the proportion of men and women of working age (12 years and over) confined to bed due to illness varies between 25% and 45% per three-month period. Working incapacity reaches its peak during the cold season and is mainly due to pulmonary diseases.

Night blindness, or Vitamin A deficiency, appears towards the end of the dry season. It affects primarily pregnant or lactating women. It is linked to the low concentration of Vitamin A in cow's milk during this season. Close contact with the animals increases the risks of contracting certain diseases. Transmission can occur through direct contact : anthrax, leptospirosis, tetanus; through the consumption of milk : tuberculosis, brucellosis, salmonellosis, Q fever;

* Refer to the survey made of 54 Wodaabe families visited at three-month intervals over a period of one year (1980-1981) : "Health and Nutrition in a Group of Wodaabe (Bororo) Herders in Central Niger", L. Loutan 1982.

through the consumption of meat : taeniasis (Taenia saginata), toxoplasmosis; or through infected insect vectors : rickettsioses. To this should be added rabies and foot-and-mouth disease.

Epidemiological data being scarce and the herders being little inclined to visit the health services, it is difficult to estimate the prevalence of these different diseases. Epidemiological surveys in the pastoral zone would probably indicate that these diseases are not rare. For instance, a high proportion of the cases of non-pulmonary tuberculosis (of the lymphatic glands or of the bones) seen at the Antituberculosis Centres (CAT) is found in herders. On the other hand, a survey made of persons in contact with the livestock (i.e. personnel from the ranches, slaughter houses and OLANI dairy) in the Department of Niamey, showed that over 10% were serologically positive for brucellosis and that 13% of the ranch animals were positive. Such observations should stimulate the Livestock and Health Services to take joint measures which could be coordinated by the ILP project.

The herders are hard hit by disease. Indeed, the system of production in the pastoral zone relies essentially on the working capacity of the herders, and on this work depends the survival, the health and the development of the herds. Apart from the rare exception, each member of the production unit has a specific and necessary function. In contrast with agriculture which leaves the farmer certain periods of rest, the herd requires daily attention and chores. When a member of a family falls sick, not only must his work be done by someone else, but the functioning of the family as a whole can also be seriously disrupted (e.g. inability to leave their camp site and move with the others, impossibility of gaining access to the good pasture-lands, etc.) and the productivity of the herd reduced. This is felt all the more strongly the more the family size is small and the tasks of each family member numerous. The high rate of working incapacity observed in a Wodabe population sample is most revealing of the heavy price disease exacts from the herders and of the existing health needs.

3. Nutrition

Seasonal changes in the environment, the diet and the activities of the herders, together with variations in disease prevalence, have repercussions on the nutritional status of the herders. Towards the end of the dry season, loss of weight in adults and increased malnutrition in children are observed.

Between the months of February and May men lose, on average, 3.1 kg and women 2.4 kg. Some lose as much as 8 kg in three months, i.e. 13% of their body weight. Recuperation is slow, extending from the rainy season until the end of the cold season (February).

The growth of children under 5 years of age is also affected. Although the mean gain in weight for a three-month period is 847 grams for 9 months out of 12, there is a weight loss of 113 grams for the three-month period between February and May. As a result of this, acute malnutrition (weight/height is less than 80% of the standard) rises from 7% to 17%. Clearly, the critical period comes towards the end of the dry season (April-June) and lasts until the new pastures have grown and a sufficient production of milk has been reached.

Milk plays an essential role in the nutrition of the herders by providing good quality proteins, vitamins and fats. It also seems to increase the immunological defenses of those who, like the herders, drink it in large quantities. It is very possible that milk plays an important role during the rainy season. Indeed, during the 10 months of the dry season when mosquitos are not present, the herders receive no immunogenic stimulation from repeated infections with Plasmodium and they enter the following rainy season with greatly diminished defense capacities. They have consequently become more susceptible to an attack of malaria. However, it is possible that this lowered resistance to Plasmodium is counterbalanced by the beneficial effect obtained from the consumption of milk which is particularly high in this season. It has, in fact, been shown in monkeys that milk reduces the multiplication of the parasite (B.G. Maegraith, 1952).

This "inhibitory" effect obtained from a purely milk diet, and attributed by some to the low PABA (para-aminobenzoic acid) content of milk, may also operate in man (F. Hawking : 1953).

On the other hand, as the lives of the men and the animals are closely linked and as they share certain common diseases, it is possible that a favourable adaptation gradually develops, drawing benefit from the biological defense mechanisms transmitted through the milk.

A study made among Masai herders showed an "inhibitory" effect of milk on the development of amoebae due to the low iron content of milk and to its partially saturated binding proteins which compete with the amoebae for the iron in the intestines (M.J. Murray, 1980).

If a reduction in the quantity of milk available for the diet of the herders were to occur as a result of their impoverishment or subsequent to the development of a livestock policy exclusively aimed at meat production, this would probably have serious consequences on the health of the herders.

4. Utilisation of the health services

Few herders use the health services despite the fact that a fairly evenly distributed infrastructure already exists. Access to the health services remains limited because of the dispersion of the population, the considerable distances to be covered and the constraints of a professional and cultural nature. Only 8% of the herders visit a dispensary during a period of three months. These visits are made mainly on market days when the herders come to get fresh supplies of cereals and other commodities. It is mostly adults who come for consultations; the children remain in the camps.

Living as they do, far away from the population centres, the herders are rarely reached by the annual vaccination campaigns. Only 5% of the children under 10 years of age have a vaccination mark.

5. The selection of measures to be applied

The needs are many but the capacity of the existing services to meet them is limited, hence the necessity of concentrating efforts on specific objectives. In the pastoral zone where the health coverage is poor, it is essential to satisfy first of all the priority health requirements of the herders, that is to say common diseases known to endanger the life of children, diseases affecting the working capacity of the adults and those diseases considered to be important by the herders themselves. The selection of the diseases against which measures would be taken will be based on their frequency and on their potential consequences as well as on the means available to combat them. Among the priority health problems of children, the ones selected are:

- fever (presumably malaria)
- diarrhoeas
- pulmonary diseases
- conjunctivitis
- Vitamin A deficiency.

At the same time epidemiological surveys should be undertaken in the pastoral zone to determine to what extent measles, meningitis and tetanus are prevalent diseases against which measures should be taken.

Health problems which the herders feel are important and which reduce their working capacity are:

- fever (malaria)
- pulmonary diseases
- rhumatic complaints
- gonorrhoea (affects particularly the Wodaabes)
- Vitamin A deficiency.

Among the diseases associated with the livestock, tuberculosis, brucellosis, anthrax, salmonellosis and rickettsioses should also be the object of preliminary epidemiological surveys with a view to their control. These surveys should be conducted for both the animal and the human population in order to define the existing inter-relationships.

Finally, the programme will address itself more specifically to the women in order to be able to:

- ensure hygienic conditions of childbirth
- promote adequate health care for newborns
- reduce the nutritional stress of the children towards the end of the dry season.

This list has been deliberately limited and highly oriented towards curative measures. This choice was guided, on the one hand, by the observation that prophylactic measures are extremely difficult to apply under the conditions prevailing in the pastoral zone and would most probably give disappointing results, and on the other hand, by the wish to meet and satisfy the demands of the herders, i.e. to have access to basic health care.

This programme in no way excludes prophylactic measures; on the contrary, it is a necessary preliminary step to the eventual adoption of a preventive approach. To make health care accessible to the herders will lend credibility to the programme and will permit the gradual development and application of prophylactic measures. These objectives should, in the main, be achieved through the National Primary Health Care Programme (AES) and Maternal and Child Health (MCH) programme, with the support of the health units and the Departmental Mobile Team for Hygiene and Medical Care (EDHMM).

Improvements in the area of nutrition depend in part on nutritional guidance given through the MCH programme, but even more on the standard of living and the economic means of the herders. However, these last are dependent on the general circumstances and economic situation prevailing in the zone. It is to be hoped that the activities of the project will contribute to an improvement and that the surveillance system will allow the early reporting of critical situations.

III. PRIMARY HEALTH CARE IN THE PASTORAL ZONE

The mobility and dispersion of the pastoral populations greatly limit their access to the health services. The health services are situated in towns and villages, and for obvious reasons, have difficulty in reaching the herders.

If the Government of Niger wants to achieve the objective it has set for itself, i.e. "health for all by the year 2,000", other approaches must be developed. The National Primary Health Care Programme (AES) is one of those approaches which offers promise. This Programme, through the medium of the health auxiliary, makes essential drugs available to the herders in the bush. It gives the herders a sense of responsibility, it involves them in the activities of the health services, and it takes them out of their isolation.

1. Three training programmes for health auxiliaries/herders

A few training courses for health auxiliaries have already been held in the pastoral zone. However, all had to face difficulties associated with the geography of this region, the life-style of the herders and the very structure of the health services. It seems worthwhile to describe here three programmes for the training of herders as health auxiliaries in order to identify the problems encountered by these programmes and to determine to what extent it is possible to resolve them. The Tchín Tabaraden programme is described in greater detail as the author was able to participate in setting it up and carrying it out.

1.1 The Bermo-Dakoro training programme

In 1975, 12 Wodaabe (Bororo) and 4 Twareg herders were trained as health auxiliaries. Later, refresher training was organised at Dakoro. These health auxiliaries are supplied with drugs which are the same for all the training programme and which they carry in leather satchels. They go to the Bermo dispensary to get fresh supplies. The drugs are sold at a low price without substantial profit (e.g. 2 chloroquine tablets for 5 CFA^{*}).

* \$1.00 = 300 CFA

Every three months a supervision round is organised by the Director of the Mission of Bermo.

At the end of 1980, only 5 Wodaabe herder-health auxiliaries were still active, all of them based near Bermo. The reasons given by those who had dropped out were the following :

- The health auxiliary derives no material benefit from his work. He gets no financial advantages and frequently finds himself at the end of the year with a loss of 1,000 to 2,000 CFA because he has not been paid for the drugs distributed. Moreover, in the pastoral zone the health auxiliary is sometimes obliged to offer hospitality to consultants who have come from far away and this gives rise to additional expenses.
- He receives neither compensation nor favours from either the government services or the herders for whom he works.

Chloroquinisation campaigns have been organised around the health auxiliaries and dispensary. The herders recognising the value of these campaigns come each year at the beginning of the rainy season to fetch a supply of the drug.

Comments

- This was one of the first training programmes for health auxiliaries among herders and despite the high percentage of drop-outs, it has nevertheless continued to function for 6 years.
- The chloroquinisation campaign during the rainy season meets a need of the herders and it is organised each year with success.
- The lack of recognition and benefit attached to the function of health auxiliary is the principle cause of abandonments.

1.2 The In Gall training programme

Some years ago, herder-health auxiliaries had been trained at In Gall but none of these health auxiliaries was still active when a new training programme was organised in 1980. After a first day devoted to discussions concerning the diseases and the wishes of the herders, the remainder of the training deals with the main diseases, hygiene and nutrition.

The drugs are distributed free of charge to the health auxiliaries and fresh supplies can be obtained at the dispensary or when the supervision round is made every three months.

In 1981, a second training course was held for 8 health auxiliaries, bringing to 15 the number in activity. After two years of activity, no abandonments have been registered.

This programme works well thanks to the nurse who has shown both motivation and interest for the AES and thanks to the support given the nurse by the head of the administration post and the DDS, which placed at his disposal additional staff so that he could devote more of his time to the health auxiliaries. A form of compensation was established. Each health auxiliary is registered at the OPVN* as a member of the dispensary staff and is entitled once a month to buy cereals sold at the official price. The status of health auxiliary is certified by an individual health auxiliary card issued locally.

* OPVN : a government department which sells cereals at a fixed price throughout the year; this price is generally lower than the current market price.

Comment

This programme clearly shows how important are the motivation of the nurse on the one hand and collaboration and support of the DDS and other government services on the other hand.

Primary health care demands time, availability and means. Recognition of the status of health auxiliary and the introduction of a form of compensation for the work accomplished by him have certainly played an important role in the success of this training programme.

1.3 The Tchín Tabaraden training programme

At the end of February 1981, 9 health auxiliaries were trained at Tchín Tabaraden by the head of the Medical Centre and the nurse from Abalak. Six of them are nomadic herders and 3 are sedentary agro-pastoralists. All live in the bush far away from the villages. An information and recruitment tour had been made four weeks earlier and, since the end of the training course, supervision and supply rounds have followed each other at three month intervals.

This programme is the result of a close collaboration between the DDS of Tahoua and the Niger Range and Livestock Project. The Project played a supportive role by providing a certain amount of guidance at the Medical Centre level, without much changing the normal functioning of the programme. It also offered an opportunity for further reflection by organising in collaboration with the DDS of Tahoua, a seminar at Tchín Tabaraden on the AES in the pastoral zone (June 1981). All

the phases of this training programme (information, training, supervision) were entirely insured by the Head of the Medical Centre. The programme was the same as the one generally followed in the other rural regions of Niger. The aim of this training programme was to see to what extent primary health care as it is organised in the villages can be extended to the pastoral zone and to determine what modifications would need to be made.

The following pages describe each phase of the programme and indicate the constraints and difficulties which arose.

The information phase - the selection of health auxiliaries

At the beginning of 1980, the previous Head of the Medical Centre of Tchín Tabaraden had offered to train Twareg herders as health auxiliaries. He had made a tour of the chiefs of the Twareg group of tribes and had visited certain important wells. Unfortunately, it proved impossible to realise this programme.

When in November 1980 a new training programme was proposed, it was decided to use the previous list of candidates, but to limit the number to 10 and to include also Wodaabe herders. The herders would be chosen from the tribes and various factions residing in the Tchín Tabaraden area.

In most of the training programmes carried out in Niger, the information phase consists of a tour of the villages and camps where the nurse wishes to train health auxiliaries. The nurse convenes the village chiefs together with the entire community concerned and describes to them the functions and activities of the health auxiliary. Afterwards, the people will discuss the matter among themselves and propose a candidate. A fortnight later, a vehicle comes to fetch the candidate and drives him to the dispensary where the training takes place. This pattern was the one followed at Tchín Tabaraden.

A three-day tour in the bush made it possible to choose 7 candidates. Two more volunteered on the occasion of meetings organised at the market and a last one was contacted by the person in charge of the organising. Finally 9 showed up for the training programme.

The training

The training was carried out at the Medical Centre at Tchin Tabaraden and lasted 9 days. The health auxiliaries were driven from their camps to the Medical Centre and at the end of the training course they were driven back to their homes. They were given room and board during the course.

The programme was established by the Head of the Medical Centre and agreed to by the DDS. Based on the recommendations set out in the manual of the Auto-Encadrement Sanitaire, the programme dealt with the following main subjects : principles of nutrition and hygiene; disease transmission; recognition and treatment of common complaints (fever, diarrhoea, cough, conjunctivitis, trauma, wounds); drug dosages; identification of epidemic diseases (measles, whooping cough, meningitis) and of tuberculosis; and the recording of consultations.

The Head of the Medical Centre and the Twareg nurse from Abalak lectured on these various subjects in the mornings in a meeting room. The afternoons were devoted to practical exercises (e.g. making splints and bandages, dressing wounds, etc.). The evenings, spent in common around the traditional tea, were devoted to reviewing what had been taught during the day and to discussion.

At the end of the training course the Head of the Medical Centre organised a visit to different government departments (Livestock Service, OFEDES, OPVN) and the health auxiliaries were presented to those in charge of these departments. Each health auxiliary received an individual card with his name, photo and the name of the dispensary to which he would be attached. They also each received a wooden crate containing the various drugs in sufficient quantities and a leather satchel to enable them to carry small quantities of drugs to the wells or during visits to the more distant camps.

Supervision

In the villages, supervision is mainly carried out by the nurse during visits to the home of the health auxiliary. At Tchin Tabaraden the Head of the Medical Centre followed a similar mode

of supervision while trying at the same time to find a less costly alternative.

From the very beginning it proved necessary to develop a method of supervision by which the health auxiliaries could be rapidly located and contacted. Both petrol and time for making these rounds in the bush are limited and should not be wasted uselessly in searching for hours for the camps of the health auxiliaries. A plan of supervision based on the markets was adopted. On market day, the Head of the Medical Centre obtains news of the health auxiliaries from herders belonging to the same group of tribes, the same lineage or the same camp. Once each health auxiliary has been located, he decides in which order to visit them and seeks out a "guide" (i.e. a herder residing in the same camp as the health auxiliary or one nearby) to lead him to the place indicated. The health auxiliary is informed of the visit by the herders returning from market the same evening.

The day after market the nurse begins his tour, accompanied by the guide. They leave early in the morning, if possible, so as to arrive at the camp before the health auxiliary has left to go to the wells, for example.

At Tchín Tabaraden market day is Sunday, while at Kao it is Tuesday. It is therefore possible to visit the health auxiliaries around Tchín Tabaraden on Monday, then go to the market at Kao on Tuesday and finish the round of visits on Wednesday.

Certain tours of supervision have been carried out differently. Instead of visiting all 9 health auxiliaries in 2 to 3 days, several short successive outings were made over a period of one to two weeks.

Whichever plan of supervision is adopted, both are dependent on information obtained in the villages, mainly on market day from the market merchants and the herders. It is therefore essential that the nurse establish a network of information or rather of "informers" who can rapidly tell him of the whereabouts of the different health auxiliaries.

On the first tour of supervision 360 km were covered to visit the 9 health auxiliaries (i.e. 40 km per health auxiliary) and 90 litres of petrol were used. Of the 25 hours spent in the bush, two thirds of them were spent travelling. A third of the time only was passed with the health auxiliaries (i.e. one hour per health auxiliary).

The second tour was made during the rainy season; a total of 520 km were covered (i.e. 65 km per health auxiliary) and 130 litres of petrol were used. The health auxiliaries were visited in the course of 5 successive trips and for a total of more than 32 hours spent in the bush, only 8 health auxiliaries were seen! This time, three-quarters of the time was spent in travelling. The most "costly" visit took 6 1/2 hours including the two hours spent in disengaging the vehicle bogged down in a ravine! When the camp was at last reached, the health auxiliary was absent, having gone to fetch his camel!

These few figures allow a better evaluation of the time, money and effort involved in visiting the health auxiliaries in their homes. This type of supervision is exhausting, to the extent that, on arriving at the camp, no one has the energy to engage a discussion of the problems encountered by the health auxiliary or to give some further training. The hour is spent in counting the consultations recorded in the notebook and in distributing the drugs needed.

Considering the substantial investment in time and money which these monthly tours of supervision represented, it was decided at the seminar on "Primary Health Care" in the pastoral zone, held at Tchir Tabaraden in June 1981, to reduce the frequency of these tours to every three months. In order to maintain a continuity of contact between the visits to the bush, a system of supervision at the dispensary was developed.

In general each herder goes to market once a month to get supplies. The health auxiliaries are no exception. If the wooden crate is replaced by the easy-to-carry leather satchel, the health auxiliary, when he goes to market, can on the same occasion go to the dispensary with his satchel and notebook

and get new drug supplies. In this way, no additional travelling is required of the health auxiliary and a regular contact is maintained between him and the nurse. This implies, of course, that the nurse be welcoming and available when the health auxiliary comes to visit him. He must not forget that often his visitor has travelled 30 to 40 km by camel to come to see him. At Tchin Tabaraden this system has worked extremely well thanks to the warm personality of the nurse.

Who are the voluntary health auxiliaries?

Three of the health auxiliaries are sedentary Twareg agro-pastoralists living in the bush; the other six are nomadic herders, three Twaregs and three Wodaabes (Bororo).

The Twaregs speak Tamasheq and Hawsa, and the Wodaabes, in addition to these two languages, also speak Fulfulde. In this region, Tamasheq is clearly the common language. Hawsa is understood by a majority of the herders but is correctly spoken by only a few.

Of the 9 health auxiliaries only one had been to school and knew how to read and write in French. Four Twaregs wrote Tifinar, which is written Tamasheq. The literacy rate is therefore very low. This must be taken into account at the time of the training and the teaching must be adapted accordingly. The system of notation for recording the consultations must also be very simple.

All the health auxiliaries are 30 years old or more. They have a family and children of working age and are themselves herders. They can therefore devote only a limited amount of time to health care as this comes on top of their normal activities as herders.

The health auxiliary at work

The health auxiliaries say that most of their consultations are given early in the morning in their camps. The people come to see the health auxiliary as they would the marabout*.

* A traditional Muslim practitioner who dispenses treatment by reciting verses from the Koran and by making charms.

The latter rarely visits his patients in their homes. Although the health auxiliary has the use of a satchel, he rarely gives treatment at the wells and only in particular circumstances will he go to the camp of a patient (e.g. one of his relatives has been injured, an important person is sick, etc.). The camps are far away from one another so that any visit to a patient's home will entail long hours of travelling. As no means of transportation and no compensation for the time lost are offered to the health auxiliary, an expansion of the scope of his activity cannot be expected.

An evaluation of the health auxiliary's work is rendered difficult by the incorrect notation of his consultations in his notebook; and yet the recording system is very simple, each consultation being indicated by a mark in the column corresponding to the drug distributed.

When all the consultations between two tours of supervision have been added up, their number per day comes to 73 in March and 45 in June. Clearly, too many consultations are marked. In order to get a more exact idea of the real situation, each health auxiliary was questioned on the number of consultants he had seen in the 3 days before the nurse's visit. At the end of March, one month after the training course, the health auxiliaries were seeing on average 9 consultants a day and at the end of June, 5 a day. By asking the health auxiliaries who had consulted them during the three preceding days, the figures reached for 7 health auxiliaries (i.e. a total of 21 days of consultation) were 26 men, 34 women and 34 children. The origin of the consultants was not precisely indicated, but the health auxiliaries affirm that they are consulted by herders from different tribes and lineages.

In view of the irregular intervals at which fresh supplies are obtained from different dispensaries, the exact consumption of the different drugs by each health auxiliary, and in particular the seasonal variation in this consumption, is not known. It would be necessary to develop an accounting system which would centralise the data and make it possible for the Head of the Medical Centre to foresee accurately the needs of each season,

The number of patients referred to the dispensary by the health auxiliaries has not been recorded, but it is probably very low, given the little tendency herders have of going to the dispensary and considering the fact that this part of the health auxiliary's work was not given priority during the training course.

After more than one year of activity, none of the health auxiliaries has dropped out.

2 Difficulties encountered and teaching

As demonstrated by the three training programmes for herder-health auxiliaries, the AES in the pastoral zone is a perfectly feasible enterprise. It offers a unique possibility of providing access to primary health care to the pastoral populations far removed from the population centres, and this at a reasonable cost for the Government of Niger. However, these three training programmes reveal the limitations of the AES practiced in the villages when it is applied to the pastoral zone. It is these limitations and constraints, encountered at each phase of the training programme for health auxiliaries, which form the topic of this chapter.

2.1 Identification and localisation of the communities

At the present time, the administrative services have difficulty in identifying the different lineages and tribes of herders residing in the region. Only the camps of the chiefs of Administrative Groups of tribes are well known and regularly visited. It is this lack of familiarity with the zone which prompts the nurse to choose candidates only from the camps of important chiefs, or to propose training to the first herder encountered in the place selected, or again to give up the attempt of training herders and choose sedentary farmers instead.

Even when the communities are known, they remain difficult to locate. The people move around, the bush is vast and the camps are scattered. A method needs to be developed for visiting the herders in their homes.

Within the same tribe, groups of families who live together during most of the year are formed. It is these families who benefit the most from the health auxiliary. It is they also who encourage and motivate him in his activities. It is not easy to identify these families for they are often scattered over several kilometers around the camp of the health auxiliary, not all the heads of families are there at the time of the visit and it is difficult to bring them together during a rapid tour.

However, their role of support to the health auxiliary is of first importance and consequently they should be associated with the programme already at the information phase and made aware of their responsibility towards the health auxiliary.

It is important to test the real interest of a community in having a health auxiliary. At present, no financial or other kind of participation is asked of the communities as a sign of their interest and active concern in health. Perhaps the community could bear the cost of purchasing the satchel of the health auxiliary?

2.2 The receptivity of the herders

On the whole the herders are very receptive to the idea of having a health auxiliary in their community. However, this interest is accompanied by a certain mistrust - fear of being implicated in a system which is alien to their way of life and which would escape their control? - fear of working in a government service, or simply fear of the unknown? Often, the herders do not perceive any clear difference between one government service and another and all are seen as being involved in one way or another in the taxation of livestock* and the collection of income taxes. For others their reticence may be explained by the fear of being different and of being considered by the rest of the community as belonging to a government service. Finally, a good number do not see how they could do the work of a health auxiliary in addition to their activities as a herder. This is especially true for heads of families whose children are not yet old enough to help them.

* The tax per head of cattle has been abolished since the drought of 1973.

Two very religious communities refused the offer of having a health auxiliary, and yet the members of these tribes frequently go to the local dispensary for a consultation. Therefore, there is no refusal of modern drugs, but the presence of a health auxiliary is perhaps perceived as a form of dependence on a government service, or perhaps the health auxiliary is regarded as potential competition for the traditional healing practices of the marabout? It will be interesting to see, if after being in contact with other health auxiliaries, these communities will want to propose a health auxiliary of their own.

Certain herders, on the contrary, realise right away the potential value and benefit of a health auxiliary. They also see in the health auxiliary an opportunity for social advancement. This is reflected in the strong proportion of health auxiliaries who are related to tribal chiefs (4 out of 9).

2.3 The training

The location

In general the training courses are held at the Medical Centre. However, in the pastoral zone the Medical Centre can be at a great distance from the dispensary to which the health auxiliaries are attached. For example, in the zone of the Project the average distance between the dispensaries and the Medical Centre is 105 km. Therefore, it would be preferable for the training course to be held in the referral dispensary as was the case at In Gall.

The season

In Niger most of the training courses are held in March-April, which is the season when the farmers have little or no agricultural work. For the herders, however, the end of the dry season is the hardest time of the year and a time when they are the least available. No one during that period wishes to or is able to leave his camp, for each person is needed for carrying out the numerous tasks which the care of the herds requires. Consequently, it would be preferable to hold the training courses after the rainy season, between November and January.

The duration of the course

For the health auxiliaries 10 days of training are too long. The herders cannot leave their camp for any length of time because the animals require daily care and attention. For the nurse, however, 10 days of training are too little! If the quality of the training is to be improved and if the health auxiliaries are to be given the management of drugs such as antibiotics, then the duration of the training will have to be lengthened to two weeks and each year there should be, in addition, a week devoted to refresher and complementary training.

On the other hand, the herders do not like to stay for long in the villages where they feel that they are strangers and prefer to live in the bush. The prospect of spending a week in a locality does not go without certain apprehensions. Sometimes the necessity of a training period is not always understood by the family and friends of the health auxiliary and they therefore try to discourage him from participating. For example, during the training course at Tchin Tabaraden, the wife of one of the health auxiliaries left her husband's camp and went back to her parents, for she was convinced that her husband had gone to Tchin Tabaraden for unavowable reasons!

The teaching method

In the three training programmes described, the simultaneous training of Twareg and Wodaabe herders did not seem to pose any special problem. At Tchin Tabaraden, the language used was Tamasheq. The nurse in charge of the training was a Twareg who was familiar with the life of the herders in the bush and with their proverbs; he could therefore teach in a way that was the most understandable possible.

When the teacher-nurse speaks neither Tamasheq nor Fulfulde, it is imperative that he have an interpreter who speaks Tamasheq fluently. Hawsa is not sufficiently well understood by many herders for it to be the only language used during a training course.

In the bush, news is transmitted orally and not by pictures or texts. Teaching must be based primarily on discussion and verbal exchanges, and not on pictures, posters or the flannel-graph.

Being based on explanation and discussions, this type of teaching does not require any special teaching material. Nevertheless, the use of tape recorders can certainly be most helpful, by making it possible to record the health auxiliaries in a group or individually and thus to review later on certain important points.

The evening sessions spent on going over the day's lessons while drinking tea constitute an ideal setting for discussing and completing the teaching, for the herders are in the habit of spending their evenings in this way. They feel more at ease in such a setting than in a classroom.

The objectives of the training programme

In Niger, the health auxiliary is trained to* :

- Treat common diseases and traumatisms,
- Promote measures of hygiene,
- Give advice on nutrition, the maintenance of the wells, the treatment and conservation of water,
- Promote health education,
- Act as a liaison between the village and the health services and
- Manage the drugs and products which are entrusted to him.

The recommended programme is vast and the candidates would find it difficult to assimilate it in only one week, while the nurse, who has never taken any course for trainers and group leaders, would be unable to deal with all the subjects in such a short time.

When the herders are asked what it is they expect from a health auxiliary, their reply is : someone who can give us treatment when we are ill. This is very understandable, for they are far away from the dispensaries and consequently access to drugs

* Auto-Encadrement Sanitaire, Méthodes de formation des agents de santé de village, Republic of Niger, 1980

is difficult. This demand must be met and the health auxiliaries trained accordingly. To achieve this objective, the training should primarily deal with the diseases which are recognised as priority health problems because of the risks they entail and the incapacities they cause. The health auxiliary should be able to treat the following ailments :

- fever (presumed malaria)
- diarrhoeas
- pulmonary diseases
- rheumatic pains
- conjunctivities
- Vitamin A deficiency
- wounds and sores
- gonorrhoea

Regarding the pulmonary diseases, these constitute one of the most important causes of working incapacity, especially during the cold season. At present, the health auxiliary does not have any drugs against these diseases at his disposal and his training on preventive measures for the protection of children is nil. A simple treatment plan could be established to allow the health auxiliary to distinguish between an ordinary dry cough requiring symptomatic treatment and a cough with fever, yellow expectorations and an intercostal pain, requiring the oral administration of an antibiotic (penicillin, ampicillin). The same applies to gonorrhoea which is considered to be a priority health problem by the Wodaabe herders and which may lead to serious complications when it is insufficiently treated, as is often the case in the pastoral zone. Appropriate training of the health auxiliaries, making them aware of the need to treat both partners with a strong oral dose of chloramphenicol or ampicillin would allow more hope of seeing complete treatment given to both partners, compared with the present situation.

In wanting to develop primary health care in the pastoral zone, three facts must be kept in mind :

- the great distances to be covered,
- the dispersion of the population and
- the importance of the seasonal variations.

These facts make it important to :

- Give to the health auxiliary the greatest autonomy possible, for in view of the long distances to be covered, he cannot constantly go to consult the nurse and obtain fresh supplies from him.
- Supply the health auxiliary with sufficient quantities of effective drugs which will allow him to treat an optimal number of complaints without having to refer the patient to the dispensary (which is often too far away for the patient to visit). It must be noted that the herders are willing to travel long distances to see the health auxiliary if they know that he has effective drugs.
- Concentrate the means made available to the health auxiliary and orient his action towards the complaints which are the most prevalent in each season (e.g. cough during the cold season, fever during the rainy season).

The task of the health auxiliary will consist primarily in dispensing curative treatment and health education. To change the ancestral customs of the herders in the areas of hygiene and nutrition seems to us to be far beyond the power and the competence of a health auxiliary, all the more so as the constraints imposed by the environment are such that often no alternatives to the usual practices exist.

The health auxiliary will also be a health educator who teaches the other herders how they themselves can use the common drugs and who encourages them to get vaccinated either in the bush or at the dispensary.

The trainers

The Head of the Medical Centre is in charge of the training programme. He assumes this responsibility in addition to his normal duties of administering the dispensaries in his district and of dispensing health care at the level of the Medical Centre. At Tchir Tabaraden, the Head of the Medical Centre was able to obtain the assistance of a Twareg nurse. The latter was relieved of all other tasks at the dispensary and devoted himself exclusively to the training programme. It is essential that

the nurse responsible for the training have no other duty during that period. As the duration of the course is short, the nurse must be available at all times for the health auxiliaries (morning, afternoon and evening).

The nurse may be doing his best but the fact remains that he has received no teacher training and that certain useful teaching techniques are unknown to him. Each year, before the health auxiliary training period, the nurses should follow a course on methods for the teaching of health auxiliaries. Such a course could be organised locally by the ILP Project and would seem to be particularly recommended and necessary for the nurses of the pastoral zone who are often unfamiliar with the realities of the herders' life.

2.4 The movements of the health auxiliaries in relation to the dispensaries to which they are attached

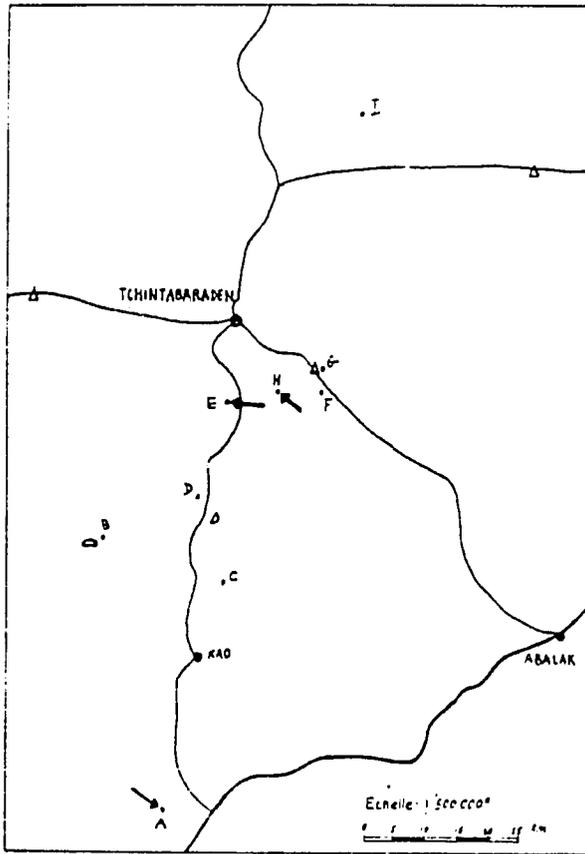
Three maps indicate the positions of the health auxiliaries and their movements between visits to the dispensary.

In February and March the movements are slight, whereas between March and June, the positions of the health auxiliaries clearly change as a result of movements linked with the end of the dry season when many of the wells are dry and pasture-land is scarce. During the rainy season the movements increase in number and extent. However, the map for June 1981 is not representative of the usual movements of the three Twareg health auxiliaries (D,F,I) who normally go to In Gall during the rainy season. That year, the rains were less abundant at In Gall and the pasture-lands insufficient, therefore the herders remained at Tchih Tabaraden.

These maps also show that the dispensary closest to the health auxiliary may change. For example, the health auxiliary E who had depended on Tchih Tabaraden in March, moved closer to Kao in June and therefore visited the dispensary at Kao. In September, A, D and E went back to the north and from that time they fetched their supplies at Tchih Tabaraden. These movements can, to a certain extent, be foreseen. Consequently, it is possible and necessary to organise the supervision and supply of the health auxiliaries accordingly.

The health auxiliary card becomes especially important for identifying them when they come to a new dispensary for supplies. Contacts between the nurses of the different dispensaries are also

Positions of the health auxiliaries, end March 1981

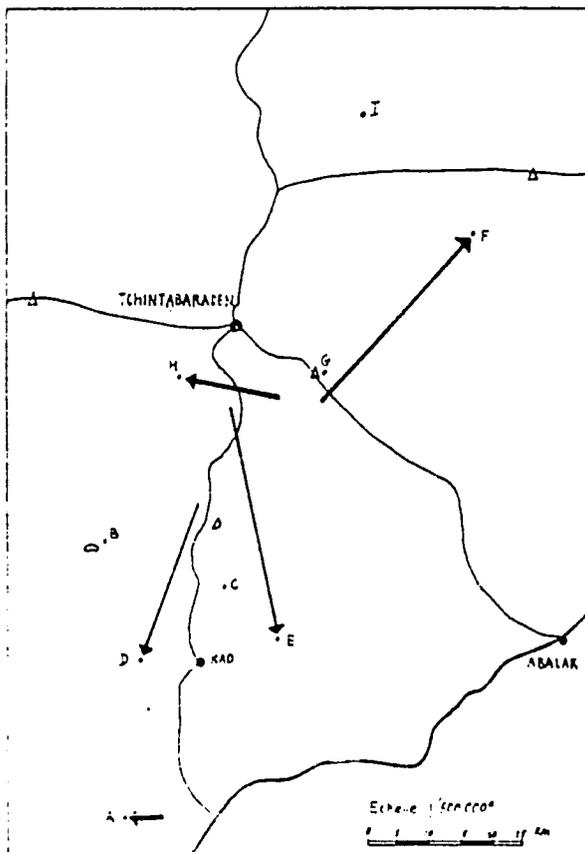


The Positions and Movements of the 9 Health Auxiliaries/ Herders in the District of Tchintabaraden (1981)

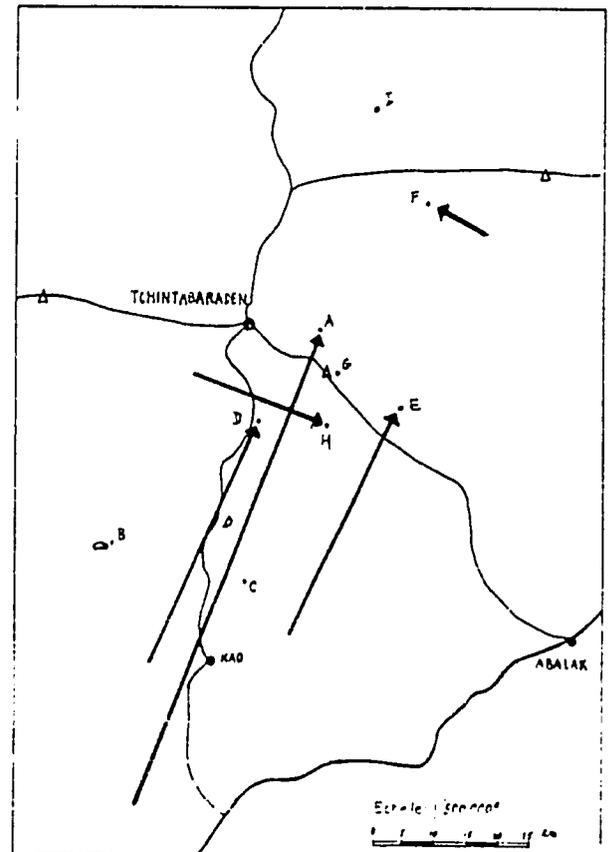
(The arrows indicate the movements that occurred since the previous visit)



Positions of the health auxiliaries, mid-June 1981



Positions of the health auxiliaries, September 1981



important to ensure the smooth operation of the supply system. Sometimes a health auxiliary may change Districts or Departments, for example, when he goes up from Tchib Tabaraden to In Gall during the rainy season. This underlines the importance which should be given to cooperation and coordination between the different DDS and the District and Departmental dispensaries. It also stresses the importance of promoting the generalised use of health auxiliary position mapping and standardisation of the drug supply system.

2.5 The supplying of drugs

The supplying of drugs to the dispensaries

In Niger, the dispensaries are supplied twice a year. At the District level the Head of the Medical Centre establishes the needs of the different dispensaries and sends to the DDS an order for drugs to cover the needs for the next 6 months. The DDS countersigns the order and forwards it to the DES* at the Ministry of Health in Niamey which centralises all the orders coming from the Departments. The DES in turn forwards them to the ONPPC**. The drugs are then directed towards the different Offices of Departmental Health which distribute them to the Medical Centres.

In the pastoral zone, the dispensaries are regularly supplied and are rarely out of stock. However, the quantities available are limited and need to be carefully managed by the nurse. The dispensaries do not pay for the drugs distributed to them.

The supplying of drugs to the health auxiliaries

In the villages, the health auxiliaries sell the drugs at cost price (2 tablets of chloroquine = 5 CFA). The health auxiliary gets his supplies either from the dispensary or from the people's pharmacy (located in the important towns). He buys the drugs with the money received from the previous sales.

In the pastoral zone, the drugs are distributed to the health auxiliary free-of-charge. Supplies are obtained uniquely from the dispensary where a stock specially reserved for the health

* DES : Direction des Etablissements de Soins (Office of Health Care Establishments).

** ONPPC: Office national des Produits pharmaceutiques et chimiques (National Office of Pharmaceutical and Chemical Products).

auxiliaries has been constituted by the nurse in accordance with the number of health auxiliaries dependent on his dispensary. This is a quite separate stock whose cost can be covered by the Rural Health Improvement Project (USAID)*.

In the pastoral zone, the provision of supplies is made more complicated by the movements of the health auxiliaries and it happens that a health auxiliary who goes to a new dispensary cannot receive supplies because there are no drugs available for him. At each dispensary there should be a reserve stock set aside for unexpected visits of health auxiliaries, or else a reserve should be kept at the Medical Centre from which deliveries could be made to the dispensaries when new health auxiliaries arrive. The organisation of such a reserve stock would be particularly important at In Gall where numerous herders converge during the rainy season.

Control of the supplies

As supplies may be obtained from different dispensaries or at the time of visits to the bush, it is essential that a central accounting be kept so as to be able to control and estimate the consumption of different drugs by the health auxiliaries. Each dispensary should keep a record of the drugs distributed to the health auxiliaries, recording both in its account book and in the health auxiliary's notebook the quantity distributed. This double entry would allow the rapid detection of any possible embezzlement and an estimate of the needs of each health auxiliary in each season.

Management of the drug supply and distribution system should be based on the WHO publication "On Being in Charge : A Guide for Middle Level Management in Primary Health Care", (1980).

The supplying of drugs at no cost

In the pastoral zone, the herders do not pay for the drugs they receive from the health auxiliary. This situation encourages a

* At present, USAID finances 90% of the training programmes and refresher training courses for health auxiliaries and traditional birth attendants in Niger. The Agency also covers the expenses entailed by supervision (e.g. petrol, mopeds).

needless consumption and deprives the herders of a sense of responsibility. The drugs should in fact be sold at a moderate price as is the case in the villages. This adjustment, however, should be accompanied by identical measures at the level of the dispensaries. If the drugs are obtained free-of-charge from the dispensary but at a cost from the health auxiliary, this puts the health auxiliary at a disadvantage. Moreover, such a situation places a double penalty on the rural populations living far away from population centres. Not only is their access to the dispensary difficult but also the drugs obtained from the health auxiliary must be paid for. A policy decision of this kind regarding health would tend to favour the development of the National Primary Health Care Programme (AES) and to ease the financial burden of public expenditure for health.

Transportation

It is not realistic to envisage tours of supervision in the bush, using traditional means of transportation such as the camel or the horse. They are too slow and also considered unacceptable by most of the nurses concerned. Supervision in the bush requires a vehicle.

At present, 5 out of the 10 dispensaries in the Project have a Land Rover at their disposal. The allocation in petrol for a dispensary is 1,000 litres every three months, that of a Medical Centre is 1,650 litres. The vehicle is used to fetch the supplies for the dispensary, to evacuate patients and to carry out the tours of supervision of the health auxiliaries.

For the past two years, the Rural Health Improvement Project (USAID) provides the petrol necessary for the quarterly supervision tours of the health auxiliaries in the bush, provided a request has been lodged by the nurse via the DDS.

If the AES is to be developed in the pastoral zone, then priorities will have to be established for the use of the vehicles, together with a stricter control of the petrol allocation. On the other hand, each health unit should have a vehicle for the quarterly tours of supervision at its disposal on a permanent or periodic basis. The use of motorcycles or light vehicles like the Suzuki jeep should also be envisaged.

2.6 Motivation and due recognition of the health auxiliary

In Niger, the health auxiliary is defined as "a man or a woman born in the village, a non-remunerated volunteer ...". This implies that the health auxiliary carries out his health care activities in addition to those of herder or farmer and that therefore the time he devotes to them is limited. However, it is evident that the health auxiliary accepts this work because he finds in it an interest and advantages which make up for the additional work and the inconveniences.

During the training course, the health auxiliaries take an evident interest in what they are learning. However, to maintain this interest, their training must be pursued, for example, during the supervision rounds. Unfortunately, this further training is often not provided, and the risk of a rapidly diminishing interest of the health auxiliaries in their health care activities is to be foreseen.

Interest in his work is not a sufficient motivation for the health auxiliary; he must also find a certain benefit in it : a social advancement, the respect and esteem of the administrative services, compensations, financial advantages, etc.

If it is difficult to evaluate the social benefits which the health auxiliary receives from the herders; it is easier to estimate the advantages he receives from the administrative services. In the three training programmes described, the nurses recognised the importance of giving to the health auxiliaries a sense of their value and in the case of In Gall, the health auxiliaries have obtained indirect compensation for their work by having access to the cereals of the OPVN as members of the dispensary staff.

Unfortunately, this is not always the case and frequently the health auxiliary is considered as the lowest step in the hierarchy and receives no special consideration. A concrete expression of recognition of the status of health auxiliary and appreciation of his work by giving the health auxiliary a privileged access to the benefits enjoyed by the staff of the administrative services, is a sine qua non condition to the success of the AES.

Moreover, the health auxiliary must feel that he has the support and guidance of the nurse. This implies the regular delivery of supplies, instructive and encouraging supervision and the availability of the nurse when the health auxiliary visits the dispensary.

Furthermore, inconveniences in the health auxiliary's work must be reduced to a minimum : the wooden crate should be replaced by a more practical leather satchel and the glass bottles by plastic ones, the drug quantities to be transported should be adapted to the needs of the different seasons, etc.

The example of Bermo shows that the work entails expenses for the health auxiliaries and that, if no compensation is given, a strong proportion of the health auxiliaries drop out.

In fact, the health auxiliaries do not ask for a salary, but for recognition of the usefulness of their work and a gesture on the part of the health services as a compensation for the work accomplished. Access to the millet of the OPVN seems to be a particularly appropriate solution.

During discussions with the health auxiliaries in the bush, it became apparent that the herders who benefit from their care do not reward or recognise the work accomplished by the health auxiliary and often consider him as a mere distributor of drugs which he has received from the Government. This attitude is highly revealing of the lack of participation and responsibility accorded to the communities serviced by the health auxiliaries at the time of the information phase of the training programme. In future, special importance should be given to identifying the communities truly desirous of having a health auxiliary and to involving them actively in the programme. In this connection, the Pastoral Associations would offer an ideal framework for the AES, because the health auxiliary is integrated into a clearly defined and responsible community.

2.7 The relations between the health auxiliaries and traditional practitioners

When a herder falls sick he treats himself with plants whose beneficial effects are known to him or his near relations. Each herder is familiar with a more or less extensive pharmacopoeia. Some are particularly knowledgeable in one field or another. One will be well versed in the plants and the methods which cure eye diseases, another in those which cure stomach illnesses, etc. Each can consult a "specialised" practitioner according to his illness.

It is only when the plants have failed that he will go to the dispensary or a marabout^{*}. Generally, the marabout is consulted for diseases for which a supranatural cause is suspected, for chronic ailments for which all other treatments have failed, or for illnesses occurring in a context which lets one suspect the influence of an ill-intentioned person. When a patient consults a marabout, he expects him to have a favourable action on the forces which are at the root of his illness.

Dispensaries and modern drugs have no magic power. Consultations at the dispensary are for an ordinary illness or for one for which the nurse is known to be equipped : an injection of penicillin for urethritis, an aspirin for headaches, etc.

In the mind of the herders, the health auxiliary belongs to this same category of healers. He does not enter into competition with the marabout, and is consulted for other reasons. It is also probable that the marabout will not want to become a health auxiliary, knowing that he would be included in a hierarchical system over which he has no control and in which he would occupy a subaltern position. The marabouts enjoy great esteem in the bush and are obviously keen on keeping this privileged status.

It is important that the position of health auxiliary be proposed to the marabouts and the traditional practitioners at the same time of each training course so as not to exclude them and to show

* A man of the Muslim faith who has studied the therapeutic practices of Islam.

them respect as well as a desire to integrate them into the programme. In this way confrontations will be avoided and maybe one day their participation obtained.

IV. CONCLUSION AND RECOMMENDATIONS

Three training programmes for herder-health auxiliaries illustrate some of the achievements of the National Primary Health Care Programme (AES) in the pastoral zone. In developing a programme of primary health care in this region, the characteristics peculiar to the geography of the region and to the way of life of the populations living there must be taken into account.

By looking back on the different phases of the training programme for health auxiliaries, it becomes possible to identify the difficulties encountered and to learn lessons from them which may be useful for future training programmes.

In order to ensure the development of primary health care in the pastoral zone, a series of measures needs to be taken so as to give a better preparation to the nurses in activity and to improve the functioning of the health services in the zone.

Know the herders :

- draw up a map showing all the lineages and tribes living around each dispensary and indicating their transhumance movements.
- identify the communities desirous of having a health auxiliary, giving priority to Herders' Associations.

Define the objectives of the training :

- objectives which meet the wishes and the needs of the herders, i.e. access to basic health care.
- develop a simple teaching method, using educational techniques based primarily on oral communication.
- conduct a short course of training, to be repeated if necessary during a suitable season of the year.

Train the trainers :

- organise training periods for the teacher-nurses, to familiarise them with simple teaching techniques, to improve their knowledge of the herders and to help them master methods for

the supervision and continued training of the health auxiliaries.

Provide supplies and equipment and supervision :

- the herder-health auxiliary does not depend on the same dispensary throughout the year, therefore :
- constitute a reserve stock of drugs in each dispensary together with an appropriate recording system,
- coordinate and standardise the supply system of the dispensaries in the different Departments,
- generalise the use of the health auxiliary card,
- conduct most of the supervision at the dispensary on market days,
- provide supplementary training at the time of each supervision and
- define priorities for the use of the vehicles.

Recognise the status of health auxiliary :

- all the services must recognise the importance of the status of health auxiliary and must give him the right to share in the benefits they offer.
- give to the health auxiliary some form of compensation for his work.