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## **PASTORAL DEVELOPMENT NETWORK**

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**A PARA-VET PROGRAMME IN SOUTH SUDAN**

by

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### Background

ACCOMPLISH (Action Committee for the Promotion of Local Initiative in Self-Help) is a local self-help group in Terekeka District of Equatoria Region, South Sudan. The tribe inhabiting this area are the Mundari. They are a pastoralist people with a population of approximately 700,000. The Mundari keep cattle, goats and sheep. The cattle population is estimated at 150,000 head. Estimates of goat and sheep populations are not available but their numbers are large. Oxfam has been assisting ACCOMPLISH in various development activities, including rehabilitation of roads, re-stocking, tree planting and livestock and health.

The level of veterinary care available to stock owners in the district has been very low for several reasons: (i) The almost total lack of veterinary pharmaceuticals and equipment in Equatoria Region; (ii) The lack of trained veterinary staff stationed in the district; (iii) the inability of the government veterinary service to mount vaccination programmes due mainly to the lack of resources available to it.

Epidemics of Rinderpest regularly occur in the district and often cause massive losses to individual stock owners. Other diseases such as Contagious Bovine Pleuropneumonia (C.B.P.P.) and Haemorrhagic Septicaemia (H.S.) are also common and account for considerable losses. In addition to these diseases, Trypanosomiasis and the tick-borne diseases occur seasonally and are responsible for additional stock losses.

In practice, because no organised system of animal health care existed in Terekeka district, cattle owners have had to rely on their traditional methods. However, in the face of major epidemics these methods are not effective. Some cattle owners are aware of the value of modern antibiotics but as mentioned earlier these are rarely available to them.

In the last two years civil war in Southern Sudan has caused major losses of cattle through cattle raiding. This has forced stock owners to move their herds into less suitable areas. The Mundari have had to concentrate their cattle into smaller grazing areas, often located within Tsetse fly infested woodlands. The higher stocking rates have facilitated the rapid spread of disease. It thus became imperative that a system for the provision of prophylactic and therapeutic veterinary medicine be available if the cattle herds of the Mundari, and consequently their way of life, were to be preserved.

### Description of the Scheme

#### The Concept

The concept of the para-vet scheme was based on a proposal for a similar scheme of 'barefoot vets' in the Turkana district of Kenya.<sup>1</sup> Suitable men would be selected by the chiefs in the district. Selection would be based on their being well known for their abilities to handle cattle. Terekeka district is divided up into area courts and each court was allocated a number of para-vets based on the estimated population of that area court. Once selected, the para-vets would undergo training in basic veterinary health care. After completing the training course, they would then be in a position to provide their community with a veterinary health service. Animal health drugs, such as antibiotics and antihelminthics would be made available to them through ACCOMPLISH, and they would then be able to administer them in a correct manner in the field.

#### Implementation

A livestock adviser was provided by Oxfam to ACCOMPLISH, in order to start the para-vet programme. The first stage involved the convening of a meeting with the local chiefs to explain the concept of the scheme to them. All the chiefs expressed great enthusiasm for the project and agreed to select suitable people for the job. At this juncture it is worth mentioning that the paramount chief for the Mundari, Chief Enoka Mojut, played a major role in obtaining the co-operation of the communities involved. Chief Enoka had been

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<sup>1</sup> While the Turkana proposal was in the end not implemented, PDN Paper 11c by Brendan Halpin, 'Vets - Barefoot and Otherwise', also discusses the para-vet approach.

trained in 1949 during the British Colonial Administration of South Sudan as a government veterinary assistant. His background knowledge, enthusiasm and hard work proved to be vital as the programme progressed.

### Training

After the selection of the para-vets, the training course commenced. Originally training should have taken place in the district, but due to insecurity some of the para-vets were brought to Juba and trained with the help of a government veterinary officer at a local government farm.

Training involved the recognition of the various different diseases occurring in Equatoria Region and the appropriate treatment for the disease. Great emphasis was placed on the idea of 'prevention is better than cure', and the role that vaccination has to play in this respect. Where antibiotics, antihelminthics or other drugs are being used we stressed the importance of correct dosage. Stock owners with access to antibiotics usually underdose by a large margin, in the interests of economy, which of course is counter productive in that resistance to drugs is often induced.

As vaccination of stock against Rinderpest, C.B.P.P and H.S. is of primary importance in any African animal health care programme, we spent a lot of time training the para-vets in the correct handling of vaccines. Much emphasis was placed on their proper storage and transport in the field. The para-vets were supervised during field trips to cattle camps, where they vaccinated cattle. After 3 weeks of vaccination work most of the para-vets had reached a satisfactory standard.

### Vaccination Programme

During the training course it became clear that the para-vets could constitute a very effective vaccination team in the district, provided they were properly supervised. The need for a vaccination programme had been recognised 6 months previously by Oxfam and a veterinary team

from the ministry had been assisting in this respect. Oxfam had encountered difficulties in implementing this emergency programme mainly because of personnel problems within the ministry team. We felt that many of these problems could be overcome if the para-vets were to perform the vaccinations. The para-vets from Tali Post area were transported back there and embarked on a Rinderpest vaccination programme under supervision. It soon became clear that through their better contacts with the local people they were able to implement the vaccinations much more effectively. For example, the para-vets were prepared to stay in the cattle camps overnight. This meant that they were able to start vaccinating very early the next morning. The Mundari tether their cattle overnight in camps. It is too risky to allow cattle to roam free because of the threat from predators and cattle raiders. In the early morning a team of para-vets can vaccinate large numbers of cattle in these camps very easily as most are lying down. During the months of March, April and May 1986, the Tali Post para-vet team (10 para-vets) vaccinated 30,000 head of cattle. The demand from cattle owners was very great.

#### Cold Chain

Fundamental to the success of the vaccination programme was the effectiveness of the cold storage facilities. Most vaccines must be stored in cold or freezing conditions. ACCOMPLISH had been provided with excellent cold storage facilities by Oxfam and the British Embassy in Sudan. The cold chain comprised of a freezer and fridge in Juba and kerosene refrigerators in Tali Post and Terekeka Towns. It was thus possible to store quantities of vaccine in the district and this greatly reduced the time needed for the transport of vaccine to cattle camps. The cold boxes and thermos flasks used in the programme also proved invaluable in its successful implementation.

#### Financial Considerations

The arrangements between Oxfam and ACCOMPLISH regarding the provision of drugs and vaccines allowed for the creation of a revolving fund from their sale. All drugs and vaccines were initially paid for by way of a grant made available by Oxfam to ACCOMPLISH. A system for

pricing of drugs and vaccines was drawn up after discussion with ACCOMPLISH Executive Committee and the Department of Veterinary Services. The prices charged were to reflect their real cost and include a small margin (10% of the cost price) for the para-vets. The revolving fund would be used to purchase drugs and vaccines available in Khartoum in the future.

In general, stock owners showed little or no resistance to paying for Rinderpest vaccinations. This is probably due to the fatal nature of this disease and its ability to spread rapidly. Regarding the diseased H.S. and C.B.P.P. stock, owners were less likely to request vaccine. Probably this was because mortality is intrinsically lower and these diseases usually do not occur as major epidemics.

The arrangement regarding the use of drugs has been that para-vets request supplies of drugs such as antibiotics and trypanocidal drugs for particular cattle camps. After administering these drugs the para-vet will remit revenue to the district supervisor or the Juba office and receive 10% of the value of the drugs.

When the para-vets are required to work together as vaccination teams they are paid, on a daily basis, from funds raised through vaccine sales. This system has worked well.

## Results

### Achievements

About sixteen out of the 21 para-vets originally selected are working well and have proved to be capable, practical people. In Tali Post area the local supervisor has developed an excellent working relationship with the 10 para-vets in his area. The para-vets are normally in their villages or cattle camps and will bring any information about disease problems to the supervisor, who will take appropriate action. If a vaccination campaign is necessary the supervisor will call for the para-vets and set up a team.

The total number of cattle vaccinated so far is as follows:

150,000 head vaccinated against Rinderpest

50,000 head vaccinated against H.S.

2,000 head vaccinated against C.B.P.P.

The Tali Post team were particularly successful in vaccinating against Rinderpest. During the months of March, April, May and June 1986, 40,000 cattle were vaccinated. This is mainly due to the good team work that has developed. The stock owners are convinced of the effectiveness of the campaign and they have informed their neighbours to bring their cattle for vaccination. The Tali Post team has vaccinated a large number of cattle belonging to the neighbouring tribe (Dinka) who are keen to have their cattle protected.

As mentioned earlier, good cold storage facilities ensured that vaccines were in good condition when used in the field. The supervisors in Tali Post and Terekeka were able to maintain the refrigerators in good working order.

On the whole the system for the dispensing of drugs has worked reasonably well. Para-vets purchase antibiotic and trypanocidal drugs and administer them in the field. New, more effective drugs have been introduced and cattle owners are now keen to use them. This is particularly true in the case of a Trypanocidal drug called 'Berinil'. This drug will bring about an immediate cure to cattle trypanosomiasis. The para-vets have used this drug a great deal in the last few months. Insecurity had forced the cattle owners to move their stock into heavily wooded areas where Tsetse flies are abundant. Cattle Trypanosomiasis thus became a major threat to herd survival but we were able to reduce the number of deaths by using Berinil.

A revolving fund has now been set up at ACCOMPLISH and currently over Ls.50,000 (Sudanese pounds) has been collected from the sale of vaccines and drugs. These funds are now available for the purchase of further supplies of drugs, vaccines and any items of equipment needed. The revolving fund will also be used for the maintenance of vehicles used for the para-vet programme. The ACCOMPLISH vehicles are vital to the success of the programme as they are needed for the transport of drugs, vaccines etc. to Tali Post and Terekeka Towns. They are also

necessary to assist in the transport of para-vets to outlying cattle camps during vaccination campaigns.

A veterinary officer has been seconded from the Directorate of Veterinary Services to ACCOMPLISH to act as the technical adviser. This particular officer has been involved in the para-vet programme since its inception and has proved to be a great asset to ACCOMPLISH.

A simple laboratory has been set up at ACCOMPLISH to aid diagnostic work. This facility has enabled us to confirm the presence of various diseases, eg. trypanosomiasis. Most recently the ACCOMPLISH veterinary officer and the Livestock advisor were able to confirm an outbreak of East Coast Fever. This is the first time E.C.F. has been recorded in Mundari cattle. The implications of this disease outbreak were very serious since it has a reported mortality rate of 80% or more. Indeed, some cattle owners have already sustained heavy losses to this disease. With prompt assistance from Oxfam an effective drug was imported from U.K. and the para-vets and supervisors were trained in its use. A treatment programme is now under way. Cattle owners are greatly relieved that an effective campaign is now proceeding. ACCOMPLISH has enhanced its credibility with cattle owners during this latest campaign.

Throughout the duration of the para-vet programme the Regional Government of Equatoria has given its full support. In practice this has meant that ACCOMPLISH has been able to import a full range of veterinary drugs, vaccines and equipment. The Department of Veterinary Services and Livestock Development have provided technical assistance whenever necessary.

### Problems

The major problem encountered has been the effect of the civil war on the Mundari community. This has forced them to evacuate a large portion of their homeland with their livestock. Losses of livestock have been great due to raiding and disease outbreaks that have been triggered off by the stress of movement, poor grazing etc. Epidemics of C.B.P.P. and East Coast Fever were the direct result of overcrowding of cattle into restricted areas around Juba Town.



General insecurity in Terekeka district prevented staff from travelling there for long periods. Under the circumstances it is commendable that vaccinations were still going on. This indicates the high degree of commitment from the ACCOMPLISH staff. Chief Enocka Mojut and the supervisor in Tali Post town were instrumental in maintaining activities in the district during these difficult periods.

While demand is as strong as ever, maintaining supplies of drugs and vaccines to Tali Post and Terekeka is becoming increasingly difficult. Every effort is being made to deliver supplies of Rinderpest vaccine and other drugs. Several of the selected para-vets from the east of Terekeka district have not received thorough training because of the disruption caused by civil war. We hope to be able to involve them in the current E.C.F. campaign and with supervision their performance should improve. The co-operation from cattle owners in the east of Terekeka district has been poor when compared to the west side. This may be directly attributable to the lack of para-vet activity in that area.

The problem of para-vet mobility has occurred several times. For example, if a disease occurs in a particular cattle camp which is a long distance away from Terekeka or Tali Post, it may take some days before a para-vet can report to the supervisor. The possibility of using bicycles has been discussed but no decision has been taken as yet.

Finally, it was originally conceived that the paravets should receive a percentage of the revenue collected from the sale and use of drugs. Some of the para-vets had become discouraged at this system as they felt they were not receiving enough financial remuneration for the job. ACCOMPLISH has arranged to supply 'food for work' and this seems to have solved the problem temporarily; however, it cannot be regarded as a long term solution. An alternative system of financial remuneration may have to be devised.