Community-based Animal Health Care in Somali Areas of Africa: A Review

Prepared for

The Participatory Community-based Vaccination and Animal Health Project (PARC-VAC)

of the

Organization of African Unity/Interafrican Bureau for Animal Resources (OAU/IBAR)

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1999
Executive Summary

This review is based on the question “Are community-based animal health systems a realistic option for improving primary veterinary services in Somalia?” This question has arisen due to positive experiences with community-based animal health in remote, pastoral areas of eastern Africa. Lessons from southern Sudan indicate that well-coordinated, large-scale community animal health worker (CAHW) systems can form the basis for improved service delivery in conflict zones. On a smaller scale, reviews of CAHW projects in dryland areas of Kenya demonstrate substantial cost-benefit through the prevention or treatment of a few important livestock diseases. In some areas, such as the Afar region of Ethiopia, CAHWs have played an essential role in rinderpest eradication. To varying degrees, these areas were characterised by limited government veterinary services, civil disorder and logistical problems related to large systems boundaries and poor infrastructure. These constraints are also highly relevant to the current situation in Somalia/Somaliland.

This review collated a number of experiences related to CAHW systems in Somali areas which indicated that community-based approaches are an appropriate way of improving basic veterinary services for pastoral communities. These experiences show that:

C within Somali pastoral communities generally, there is a high demand for animal health services. These communities are characterised by well developed indigenous institutions and livestock knowledge, very strong traditional social support mechanisms and willingness to pay for private services.

C the Somali pastoral economy is closely linked to an active livestock export trade and the market orientation of livestock production systems is increasing.

C there are many useful lessons arising from projects such as,
- the Nomadic Animal Health Auxiliaries (NAHAs) in the GTZ Central Rangelands Project in Somalia up to 1988;
- the ongoing CAHW system supported by ActionAid-Somaliland in Sanaag region, northern Somalia/Somaliland which has been self-sustaining since 1994;
- positive reviews of Oxfam UK/Ireland's CAHW project with Somali communities in northern Kenya;
- large-scale, integrated and community-based rural development programmes in the Somali region of Ethiopia which have been developing CAHW systems and restocking activities since 1994. CAHWs are accepted and promoted by Somali veterinarians, both government and private.

In summary, CAHW systems appear to be highly relevant to Somalia/Somaliland. Private veterinary activities are already self-sustaining in urban centres and ports, and there are opportunities to work with the private sector to expand basic services into pastoral areas. Such initiatives might build on both the previous veterinary privatisation programme supported by the European Union and the experience of PARC-VAC in community-based animal health systems. Lessons learned from CAHW projects in other areas indicate that in the absence of official regulation, ineffective or dishonest CAHWs are not tolerated by the communities who select them and pay their incentives. Somali herders want good quality medicines for their animals, they want to know how to use the medicines properly and they pay for services which they consider to be valuable. These conditions very much favour the establishment of small-scale, pilot CAHW systems by PARC-VAC in Somalia in order to test ways of working with local partners.
Some specific recommendations are as follows:

C **Identification of local partners.** The most useful local partners for the implementation of CAHW systems in Somalia are probably private veterinarians and associated traders who have already taken the initiative to establish associations, pharmacies or clinics, and who might view CAHWs as a mechanism for expanding their businesses into pastoral areas. Indigenous or international NGOs with long-term experience of working in Somali areas and institutional commitment to participatory, community-based approaches should also be considered as implementing partners.

C **Inclusion of key stakeholders.** In addition to working with livestock keepers and veterinarians, PARC-VAC will also need to ensure that stakeholders such as influential Somali traders, elders and military leaders are consulted. In some cases, a business person who is already supplying drugs to veterinarians might be willing to invest in CAHW systems if PARC-VAC can provide technical support. Stakeholder analysis might be usefully applied in Somalia.

C **Experience of Somali veterinarians in private and community-based animal health systems.** There are probably few Somali veterinarians who have experience in community-based approaches and those that do possess relevant skills are likely to be employed by NGOs already. Therefore, PARC-VAC will need to invest in training in participatory methods and on-the-job support to professionals working in the field.

C **Sharing resource inputs.** As a general rule, PARC-VAC should limit it's inputs to training, technical advice, monitoring, coordination, and possibly vaccine supply. Material inputs for clinical animal health services such as equipment and drugs should be avoided as ideally, these should be provided by Somali veterinarians and traders in partnership with community-level forums.

C **Roles of CAHWs in vaccination.** Given the successful use of CAHWs in rinderpest control in other areas, particularly southern Sudan, there seems to be no reason why Somali CAHWs could not handle heat-stable rinderpest vaccine under similar arrangements to those used in other countries.

C **Scope of operations and time scales.** It is notable that many of the positive experiences of CAHW systems outlined in this review are all associated with NGOs who have long-term experience of participatory development in Somali areas. In view of PARC-VAC's limited experience in Somalia, a small-scale pilot approach over a 3 year period is probably appropriate.

C **A role for ‘government’ in Somalia/Somaliland.** Ideally, CAHW systems should be linked to official veterinary services for certification, quality control and disease surveillance. In a climate of veterinary service reform in the Horn of Africa, PARC-VAC will need to consider how future public sector services in Somalia/Somaliland might develop and the roles which they might usefully fulfil. In this respect, the trend towards a regulatory, epidemiology and epidemic disease control function that is evident in other countries should be promoted in Somalia/Somaliland.

Rather than regarding the absence of government as a threat to the delivery of basic clinical animal health services in Somalia, the presence of an established private sector should be seen as an opportunity for developing better services in more remote areas. Ultimately, pastoralists will decide whether these services have value and should be sustained.
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Abbreviations

AHP ActionAid-Somaliland Animal Health Programme
CAHW community-based animal health worker
CHW community health worker
CBPP contagious bovine pleuropneumonia
CCPP contagious caprine pleuropneumonia
CRDP Central Rangelands Development Project, Somalia
EU European Union
FAO Food and Agriculture Organisation
GTZ Deutsche Gesellschaft für Technische Zusammenarbeit
ICRC International Committee for the Red Cross
NAHA nomadic animal health auxiliary
NGO non governmental organisation
OAU/IBAR Organisation of African Unity/Interafrican Bureau for Animal Resources
PARC Pan African Rinderpest Campaign
PARC-VAC Participatory Community-based Vaccination and Animal Health Project
PRA participatory rural appraisal
SCF Save the Children Fund United Kingdom
SERP South East Rangelands Project
SNRS Somali National Regional State, Ethiopia
VSSP Veterinary Services Support Project, Somali National Regional State, Ethiopia

The author takes sole responsibility for the views expressed in this report. The term northern Somalia/Somaliland is used to refer to the self-declared independent Republic of Somaliland. Various maps have been reproduced in the report and no endorsement of boundaries or place names is intended.
1. INTRODUCTION

There is an increasing body of evidence from dryland areas of the Horn of Africa that community-based services can provide effective animal health care for pastoral communities. Although used initially by non-governmental organisations in the 1970s on a relatively small-scale, community-based animal health systems now cover a substantial area of southern Sudan and are found in pastoral areas of northern Kenya, north-east Uganda, the Afar region of Ethiopia and northern Tanzania (Catley et al., 1998). Veterinary service reform in these countries and increasing privatisation of clinical veterinary services has also prompted interest in combined community-based and privatised systems in pastoral areas (Leyland, 1997) and policy debate on the need for official recognition of community animal health workers (CAHWs) is in progress in some countries. CAHWs also continue to play an important role in rinderpest eradication in pastoral areas that are inaccessible to conventional government veterinary services. This activity was made possible by the development of a heat-stable rinderpest vaccine that can be used by CAHWs without the need for extensive cold chains (Mariner et al., 1994). Some common features of CAHW projects are summarised in Box 1.

Box 1
Common features of community-based animal health worker (CAHW) projects

<table>
<thead>
<tr>
<th>Where are CAHW projects appropriate?</th>
</tr>
</thead>
<tbody>
<tr>
<td>C In areas where a government or private veterinary service does not exist. For example, the area may be a war zone or recovering from conflict.</td>
</tr>
<tr>
<td>C In areas where a government or private veterinary service exists but does not extend into more remote or marginalised areas. Commonly, veterinary services are restricted to urban centres.</td>
</tr>
<tr>
<td>C In areas where livestock owners prioritise animal health and are willing to pay for veterinary medicines. Payment may involve sale of livestock.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What is a CAHW?</th>
</tr>
</thead>
<tbody>
<tr>
<td>C A CAHW is a part-time animal health worker who ideally, owns livestock and in the case of pastoral communities, is able to travel with herds to remote grazing areas. The CAHW aims to treat diseases which are prioritised by the community.</td>
</tr>
<tr>
<td>C The role of the CAHW can vary. Some communities will want their CAHW to diagnose and treat diseases. Other communities feel more confident in their own ability to diagnose disease and may want a CAHW mainly as a source of veterinary drugs and advice.</td>
</tr>
<tr>
<td>C The definition of community is important. It may vary between a permanent settled village to an ad hoc group of pastoralists who happen to be sharing resources at a particular time.</td>
</tr>
<tr>
<td>C A CAHW is a private worker who receives incentives from the community, sometimes in the form of a surcharge on veterinary drugs. CAHWs should not be government employees but they can be linked to state systems e.g. for reporting disease outbreaks.</td>
</tr>
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</table>

Although for many years there was very little data on the impact of CAHW projects, recent evaluations in northern Kenya have demonstrated high cost-benefit of the community-based approach in dryland areas (Holden, 1997a; 1997b). CAHWs were also a crucial factor in the eradication of
rinderpest from the Afar Region of Ethiopia and reduced rinderpest outbreaks in southern Sudan (OAU/IBAR/PARC, 1996; 1997; Jones et al., 1998).

In the Horn of Africa, the Somali-occupied areas form a substantial livestock-rearing zone comprising northern Kenya, Somalia/Somaliland, and eastern Ethiopia. The Somali economy is highly dependent on livestock trade with the Gulf States and Kenya, and pastoral production systems contribute most of the animals to these markets. Somalia/Somaliland also possesses long and remote borders with Kenya and Ethiopia, and there is substantial movement of livestock across these borders for seasonal grazing and trade. Consequently, Somalia/Somaliland is a major player in terms of both the livestock economy and animal health situation in the Horn of Africa.

Regarding veterinary services in Somalia/Somaliland, many outsiders associate these areas with constitutional chaos, no recognisable government and levels of insecurity that limit the capacity of external agencies to support development activities. However, veterinary services do exist in Somalia/Somaliland and in the absence of government an active private sector responds rapidly to market opportunities. To date private veterinary work seems to have been concentrated around urban centres and ports leaving few opportunities for pastoralists to access modern medicines.

This review was commissioned in order to collate experiences in community-based animal health care in Somali areas for the PARC-VAC Project of OAU/IBAR. The review was a desktop study that used grey and published literature from projects in Somalia, Somaliland, eastern Ethiopia and northern Kenya. Much of this literature arose from aid-related interventions and some of the project activities and results described in these documents were not subject to independent assessment. The review focuses on projects that were attempting to take a long-term perspective for improving animal health services rather than emergency/relief projects of short duration. Despite the operational difficulties in Somali areas, the review was able to identify a number of useful and well-documented accounts of projects using CAHWs (or an equivalent type of worker) in different geographical areas and operational contexts.

2. THE SOMALI CONTEXT

The Somali people are one of the largest ethnic groups in the Horn of Africa, occupying Somalia, south east Ethiopia and parts of northern Kenya and Djibouti (Figure 1). Somali society is largely a pastoralist society that has adapted over many years to survive in a semi-arid and arid environment. The area stretching northwards from the Tana River in Kenya, through Somalia and the Ogaden to the Awash valley in Ethiopia and northern Somali coast forms one of the largest livestock grazing areas in Africa and is occupied predominantly by Somalis. Livestock numbers have not been determined with any accuracy but in Somalia, northern Somalia/Somaliland, the Somali National Regional State (SNRS) in Ethiopia and the Somali districts of northern Kenya combined probably exceed 7 million camels, 10 million cattle and 40 million sheep and goats1. Although this land mass exceeds 1 million square kilometres, human population is probably in the order of 7 to 10 million2.

1 In Somalia and SNRS, livestock populations estimated at 6.29 million and 1.5 million camels, 4.64 and 6.0 million cattle and 31.3 million and 11.5 million sheep and goats respectively (Baumann, 1993; Catley et al., 1997). Figures for northern Kenya should be added.

2 In 1993 Somalia’s human population was estimated at 6-7 million in an area of 638,000 km² (Janzen, 1993). In 1996, the population of the SNRS was estimated at 3.5 million in an area of > 350,000km² (Catley et al., 1997). Figures for northern Kenya should be added.
2.1 Notes on Somali pastoralism

In common with many other pastoral groups, Somali pastoralists keep mixed herds in order to maximise use of grazing and water resources, and reduce losses from disease. While these herds can comprise camels, cattle, sheep, goats and donkeys, in general the camel is the preferred livestock species in Somali areas.
"To the Somali pastoralist the camel is the most valuable animal of all, and a large herd is a sign of strength, power and prestige. As a form of property the camel is strongly associated with patrilineal kinship, which is a major structural principle in Somali society and culture. Camels are not primarily disposable income. Their value lies in the material and social survival capacity that they offer the families that keep them. The camel, which in Somali culture represents the image of continuity and reproduction, is a source of security in case of drought and misfortune. In beings able to sustain long periods of drought, a recurrent phenomenon in the area, camels have a great potential for survival."

(Talle and Abdullahi, 1993).

Also in common with other herding communities, Somalis use division of labour by age and sex to manage their livestock. While men and male youths tend camels and cattle, it is usually women who care for sheep and goats and manage young stock (Talle and Abdullahi, 1993). At household level, the pastoral food economy is characterised by high milk consumption and the sale or exchange of small ruminants for grain (Holt and Lawrence, 1991; Abdullahi, 1993). In much of Somalia, milk is plentiful during the main gu rains when the pasture and browse are lush, and offspring are born. Later in the year as the jilaal dry season progresses, the teenage boys and young men take camels to remote browsing areas. The camel herders rely almost totally on camels’ milk for the dry months and supplement their diet with wild fruits or occasional meat from an animal that has died. At this time of year it is easy to see why camels are so revered by Somalis and why they rear more camels than any other nation. When other livestock are suffering from lack of water a single camel will continue to produce around 6 litres of milk a day (Mekonnen, 1994) - two camels will meet the daily calory needs of 3 active adults. Camel milk is also rich in vitamin B and contains three times the vitamin C content as cows' milk.

Although farming and agropastoralism is practised by Somalis, these activities are restricted to areas with relatively high rainfall such as western parts of northern Somalia/Somaliland and mid-land areas of the Somali National Regional State, Ethiopia (i.e. areas equivalent to the former Eastern Hararghe administrative zone). Permanent settled farming occurs along the banks and flood plains of the Wabi Shebelle and Juba rivers. As noted in section 2.1.1, traditional pastoral systems have been undergoing gradual change in Somali areas for at least 30 years and in particular, increasing sedenterisation and market orientation is encouraging more rearing of cattle and sheep.

Some of the most detailed information on the Somali pastoral economy and livestock production was collected by the GTZ Central Rangelands Development Project between 1982 and 1989 (Abdullahi, 1993). Regarding the food and cash economy at household-level, data was obtained for two sizes of household termed ‘small’ and ‘large’ according to livestock holdings.

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3 Based on adult daily energy intake 2530 kcal and camel milk energy content of 70 kcal/100g.

4 This classification was based on Tropical Livestock Units per Active Adult Male Equivalent (TLU/AAME). Small households averaged 3 TLU/AAME and therefore, reared less animals than larger households which averaged 8 TLU/AAME.
Figure 2a.
Sources of cash income for ‘small’ Somali pastoral households

Figure 2b.
Sources of cash income for ‘large’ Somali pastoral households

Figure 2c.
Sources of food for ‘small’ Somali pastoral households

Figure 2d.
Sources of food for ‘large’ Somali pastoral households
This kind of information reflects the high economic and food dependency of Somali herders on their animals. Cash generated from the sale of small stock (Figures 2a and 2b) is largely used to purchase grain which features as a main foodstuff (Figure 2c and 2d). Other main foods, particularly milk, are obtained directly from livestock. This type of information helps to explain why Somali pastoralists prioritise livestock issues and indicates that their interest in animal health is a very logical concern.

2.1.1 Livestock trade and changes to traditional pastoral systems

While traditional Somali herding systems have much in common with those used by other pastoralists, there are key differences between Somalis and other herding communities in the Horn of Africa. For example, Somalia’s close proximity to the Gulf States favoured close economic and cultural links for hundreds of years and the oil boom in the early 1970s led to the emergence of a considerable livestock export trade from Somalia (Reusse, 1982; Janzen, 1986). As trade developed, a class of wealthy herders and urban-based livestock traders appeared who appropriated key grazing areas and encouraged the production of small ruminants over other livestock types. Hence, traditional pastoralism began to change as less powerful herders were diverted from their traditional grazing areas and faced increasing competition for water and other resources. In some areas, new settlements began to appear which were associated with agropastoralism and increased ownership of cattle. As animals became more concentrated in these areas and were moved less extensively, livestock disease patterns began to change (Edelsten, 1995).

While the number of animals exported from Somalia has fluctuated during the last 25 years and trade was interrupted during the civil war (1988-91), a substantial unregulated trade developed soon after the war ended. As a measure of the scope of the trade, in 1995 the value of livestock exports from the northern Somali ports of Berbera and Bossaso was recorded as $12.5 million (Stockton and Chema, 1995). However, the weak point in the Somali livestock export trade has been its almost total dependence on the Saudi Arabian market. In 1983 a Saudi ban on cattle imports from East Africa led to dramatic reductions in Somali cattle exports and more recently, another Saudi ban related to outbreaks of Rift Valley Fever in Kenya has seriously affected the Somali livestock trade. Somalis are also active traders of livestock with neighbouring countries, particularly Kenya. The livestock market in Garissa for example is highly dependant on cattle from Somalia and in 1995, generated $11.3 million in cattle sales alone (Little, 1996).

"Years ago when you were travelling on foot and arrived at a homestead, the pastoralist would immediately slaughter an animal for you. They were very hospitable and always treated guests in this way. Nowadays he thinks twice and prefers to buy some rice for you rather than kill one of his sheep - now he knows the real value of his animals"

(Dr. Mohammed Sheik Said - cited in Catley et al., 1997).

The influence of market-orientation on livestock management and ecology in Somalia has been a regular feature of the literature for many years. A complex picture involving human sedentarisation, population growth, large refugee/returnee populations, conflict, increasing numbers of water points and short-term, opportunistic use of grazing and forest resources have all been linked to changes in pastoralism and the environment. Another factor is the presence of government and whether private ownership of land can be regulated effectively. For recent information on these issues, readers are advised to consult studies in Somali areas of Kenya (Department of Livestock Production/Oxfam UK/Ireland, 1996), Ethiopia (Jama Suguule and Walker, 1997) and northern Somalia/Somaliland (Hassan Mohammed Ali, 1997). In particular, the Kenya and Ethiopia reports are of interest because in relation to this review, they show how community-based research can involve communities in the analysis of problems related to natural resource management. The Ethiopia report notes how in the
absence of external agencies, Somali communities had already identified the disadvantages of unregulated growth of water points and using traditional mechanisms, were taking action to solve overgrazing problems.

2.1.2 Overseas remittances

Although a country with a livestock-centred economy, Somalia possesses the longest coastline in Africa. According to Geshekter (1993), as early as the 1830s Somalis were travelling overseas to seek income generation opportunities and send money home to relatives. Due to links with Arab traders and merchants, Somalis regularly travelled to the Gulf States and in the colonial period, Somalis were employed as sailors. Pilgrimages to Islamic centres also helped to ensure that Somalis were not isolated from news and experiences from other countries.

Economic prosperity in the oil-producing countries of the Middle East was a major attraction for Somalis in the 1970s and by 1986, they were estimated to number 300,000 in the United Arab Emirates and Saudi Arabia (Janzen, 1986). Undoubtedly, these workers sent a substantial proportion of their earning back to Somalia and this remittance was estimated at $280 million by the International Labour Organisation (ILO) in 1987 (cited by Geshekter, 1993). Rather than describing a nation of nomadic herders, the ILO characterised Somali families as multi-occupational, multi-national production units whereby a family grazing their livestock on the Ethiopian border could, via the clan system and "several hands that stretched from overseas", receive support from relatives abroad. In 1999, the number of private money transfer agencies in the main Somali towns is a reflection of the continuing movement of funds into Somalia from outside sources.

2.1.3 Access to information

Somalia has a strong oral culture and the Somali language was only produced in written form in 1972. The oral tradition is demonstrated by the significant status of poets and poetry in Somali society (Andrzejewski and Lewis, 1964) and the traditional way of passing messages and news across the range using messengers who were able to memorise very long and intricate poems.

In recent times, the combination of international trading activities, diaspora and cultural desire for news has led to the development of very effective communication networks both within Somalia and between Somalis internationally. Despite the destruction of telecommunications in Somalia during the civil war, privately operated short-wave radios and even satellite phones were available in many of the major Somali towns soon after the war ended. In particular, radio is the ideal medium for Somalis and herdsmen in remote areas will meet daily to drink tea and listen to the BBC Somali Service. Consequently, even most isolated of communities in Somalia are not necessarily ill-informed about world events.

2.2 Social organisation

Somali society is based on a patrilineal and highly segmented clan system. At birth, a person automatically becomes part of a lineage through which they are linked to clan. The largest clan unit is the clan family, of which there are six - Dir, Isaaq, Darod (including the Ogaden clan), Hawiye, Digil and Rahanweyne. Although traditionally, the clan families are located in fairly well-circumscribed geographical areas (figure 1), these groups are generally too large and widely distributed to act as useful political entities (Lewis, 1961). The next level of organisation, the clan, is a more important political unit and in some cases has a clan head called a Sultan. In common with clan families, the clans are also associated with geographical areas. However, a person's sense of clan membership is more closely related to common kinship than territorial affiliation.
Within the clans, there are sub-groups which due to the intimacy of their kinship ties can be considered as distinct units. According to Lewis (1961) these units are "the lineage of which a person normally describes himself as a member" and consequently can be termed primary lineages. However, for Somali pastoralists the strongest social institution is a smaller kinship unit called a dia-paying group. The male members of a dia-paying group are united by lineage and they have collective responsibility for payment of blood-money compensation or dia. Dia is usually valued at 100 camels for the life of a man and 50 camels for a woman.

Figure 3
Basic social organisation of Somali pastoral society (source: Lewis, 1961)

Within the dia-paying group, the need for collective action to pay dia is a powerful binding influence on group members - it is at this level of social organisation where traditional law and kinship responsibilities are most evident. Dia-paying groups vary in size from a few hundred to a few thousand men and in common with other clan-based units, are associated with home territories. Figure 4 overleaf shows the distribution of some dia-paying groups in Somalia, Ethiopia and Kenya, and illustrates how a Somali's name and genealogy are sometimes described as his ‘address’.

While the dia-paying group has been a subject of much interest to anthropologists, it also has practical significance. For example, the colonial administration of the Somaliland Protectorate recognised the value of the dia-paying group as an entry point to Somali communities and diligently recorded the names, sizes and locations of every one of the 361 dia-paying groups under their jurisdiction. (Hunt, 1951). Although it was noted that the dia-paying groups often had no traditional leadership, the colonial authorities appointed dia-paying group headmen called Akils who acted as a point of contact with herders. However, "As far as the members of the dia-paying group are themselves concerned, these official headmen exercised representative rather than authoritative functions" (Lewis, 1961). In other words, the Akils were expected to act as messengers for the dia-paying groups rather than making decisions on their behalf.

5 In agropastoral areas cattle tend to replace camels in dia transactions and a buulo donation of an ox, cow or sheep is immediately given to the family of an injured person.
In the immediate post colonial era between 1960 and 1969, the Akils received less support from government because they were associated with tribal groupings which were considered to be detrimental to a modern Somali state (Ahmed Yusuf Farah, 1993). Furthermore, following a military coup in 1969 and the advent of socialism in Somalia, the Akils were abolished and expected to work for the government as watchmen in local government departments. For reasons unknown, this decision was soon reversed and the government reinstated the Akils under the new name of nabadoon (literally: peace maker) in the early 1970s. At this time the government was clearly trying to persuade former Akils to transfer loyalty from their clans to the state and a range of anti-clan initiatives were implemented. For example, in the mid 1970s clan effigies were ceremonially burnt, ‘comrade’ replaced uncle or cousin as the official form of address, the death sentence was reintroduced to replace dia, marriages were stripped of their clan significance and the countries eight provinces were reconstituted and renamed to exclude clan names and undermine the traditional sense of identification (Bradbury, 1993). Consequently, the dia-paying group as an institution was weakened and the Somali government had ostensibly declared tribalism illegal. In 1978 the Akils attended military training and socialist orientation programmes in Mogadisho and soon after, they became an important mechanism through which Siad Barre could incite inter-clan violence.

According to the anthropologist Ahmed Yusuf Farah (1993), despite their previous links to government the Akils and nabadoons are still important political leaders in northern Somalia/Somaliland. However, they are not traditional leaders but ex-government appointees whose authority is dependent on support from their clan. Therefore, it cannot be assumed on meeting a nabadoon that he effectively represents a dia-paying group. In addition, due to the suppression of tradition social structures during the Barre regime, people are not always willing to discuss their membership of a dia-paying group. Despite the turbulent recent history of the dia paying groups, they continue to be recognised as important, indigenous social institutions for pastoral development activities (VetAid, 1992, Prior, 1994; Catley, 1994).

While on paper it would be convenient to consider the dia-paying groups as entry points for community-based animal health, their value for this purpose remains untested. The traditional roles of the unit are payment of dia and conflict resolution, and the members of the group do not necessarily live close together or share a common means of livelihood. When meeting pastoralists on the range, they may or may not be from the same dia-paying group and discussions with ad hoc committees of elders are the norm. In addition, while the dia-paying groups are bound by customary law, and control contracts and decision-making, it has been suggested that the ability to manage these processes resides with elders whose knowledge has not been transferred to a younger generation (Lewis, 1995).

To a certain extent, the home territories of the dia-paying groups can be regarded as areas where pastoralists with close kinship ties will congregate during the wet season. These traditional areas are sometimes called deegaans and have been used by development projects to characterise project areas or target communities. However, the behaviour of Somali pastoralists is more strongly influenced by their membership of dia-paying groups than their occupancy of particular deegaans. Some projects have also used the concept of beel to describe Somali communities. Beel seems to be associated with the common use of a particular resource, such as a well, and can involve different clan groups. It is the need to agree on access to the resource and cooperate with respect to resource management that determines the identity of the beel members. The beel is most clearly defined in agropastoral or recently sedenterised areas where individuals from different clans may need to reach consensus over the management of land or water.
Figure 4
Distribution of *dia*-paying groups in Somali areas
2.3 Conflict and political groups

In addition to pastoralism and clan, the other key facet of Somali society is conflict. The traditional classification of Somali men into either warriors (wranleh) or religious leaders (wadaad) is an indication of the importance of war among Somalis and the literature makes frequent reference to this point. Lewis (1961) described northern Somali pastoralists as “essentially a warlike people who readily engage in battle or raiding to redress wrongs and injuries, to release pent-up enmities, to acquire or maintain honour, and to gain access to natural resources or covey their rights over them” and thirty years later Samatar (1991) noted that “Somalis live in a state of egalitarian anarchy, a world of camel husbandry and clan families and are as liable to be at war with one another as to assemble under an acacia tree for poetry contests”. The Ogaden war (1977-78), the Somali civil war (1989-91) and ongoing civil disorder in Somalia are reflections of a virtually continuous state of conflict in Somali areas since the beginning of the century.

Levels of conflict vary and whereas local feuds over resources such as wells or grazing can usually be solved relatively easily through traditional mediation among elders, wider scale conflict involves more parties and is difficult to resolve. According to Bradbury (1993), in the post colonial era in Somalia “The development of a parliamentary democracy and state structures did nothing to change traditional clan allegiances. They merely provided a new medium of expression for Somali clan politics. The significant change was in the way that the scope of political expression and action was widened from the parochial level of the dia-paying groups to the level of clan families” and that an effect of a centralised government was to “undermine the participatory nature of Somali politics”.

The influence of the Siad Barre regime on traditional political units such as the clan and dia-paying group has been outlined in section 2.2. While officially trying to remove tribalism, clan politics were used to maintain the government’s power along divide and rule principles. Consequently, when the Barre government collapsed, inter-clan conflict soon became the dominant political issue in Somalia. Warlords and ex-generals battled for supremacy with support from their clans and in the process, the capital Mogadisho was more or less destroyed. In 1999, the country remains unique because it exists in the absence of government. In the self-declared independent Republic of ‘Somaliland’ in the north, the government awaits international recognition. In both Somalia and the Ogaden, there is a complex array of political parties with shifting allegiances and varying capacity for armed action.

In addition to traditional clan allegiances and struggles, another important factor influencing the current Somali situation has been militarisation (Bradbury, 1993). Between 1963 and 1988 levels of military expenditure in Somalia were staggering - Somalia used to possess the largest army in Africa and in 1984, 36% of the national budget was spent on arms. Somalia’s strategic position in the Horn of Africa and Cold War alliances with both the Soviet Union (1963-1977) and the United States (1978-1985) were central to a massive insurgence of modern weaponry into the country.
## Box 2
Conflict in 20th Century Somalia

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>Nationalistic religious (jihaad) war by Mohamed Abdille Hassan against foreigners led to 200,000 deaths (a third of the northern Somali population), countless loss of livestock and left the ‘Somali peninsula in ruins’. Famine in 1920. Fascist rule begins in Somalia.</td>
</tr>
<tr>
<td>1930</td>
<td>1935 sees the start of the Italian Fascist campaign in Ethiopia and Somalia.</td>
</tr>
<tr>
<td>1940</td>
<td>Italians drive Britain out of Somaliland. 1941, Britain regains control of Somaliland and defeats Italy in the south. The period led to a displacement of the rural population and rapid urbanisation.</td>
</tr>
<tr>
<td>1950</td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>1977 Ogaden War with Ethiopia resulted in an estimated 25,000 Somali deaths and an immediate influx of 700,000 refugees which rose to 1.3 million by 1981.</td>
</tr>
<tr>
<td>1980</td>
<td>1981, the Somali National Movement (SNM) begin military campaign against Barre regime.</td>
</tr>
<tr>
<td>1988</td>
<td>1988 SNM capture Hargeisa and Burao. Government retaliation leads to an estimated 50,000 deaths and 360,000 refugees.</td>
</tr>
<tr>
<td>1990</td>
<td>1991 Barre regime overthrown by United Somali Congress (USC) though civil war continues between military factions, leaving an estimated 400,000 dead, 1.5 million refugees and 4.5 million facing starvation by the end of 1992.</td>
</tr>
<tr>
<td>1993</td>
<td>1993 UN sponsored international relief efforts backed by US military involvement; partisan UN policy fuels conflict and leads to withdrawal of foreign troops from late 1993.</td>
</tr>
</tbody>
</table>

(adapted from Bradbury, 1993).

### 3. COMMUNITY-BASED DEVELOPMENT IN SOMALI AREAS

The community-based approach to development is based on the concept of participation. The underlying theory behind participation is that local people are best placed to identify their own problems and usually have rational ideas for solving these problems. Participatory methods such as participatory rural appraisal (PRA) are tools used by development workers to facilitate change by assisting communities to prioritise and analyse key issues, and take action to improve their situation. Ultimately, community-based systems are characterised by local ownership and management with people seeking technical support from professionals as and when they need it.
When using a community-based approach in the development of a local service, there are a number of factors which tend to either favour or discourage high levels of participation and sustainability, as outlined in Box 3.

Box 3
Some factors influencing the development of community-based services

<table>
<thead>
<tr>
<th>Factors favouring participation:</th>
<th>Factors discouraging participation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strong, traditional social structures and decision-making forums.</td>
<td>Erosion of traditional social structures e.g. through long-term conflict, poverty, natural disasters or aid dependency.</td>
</tr>
<tr>
<td>• Local prioritisation of the service in question i.e. people will only contribute time or money to services which they need.</td>
<td>Provision of subsidised services by government or other agencies, sometimes creating expectations.</td>
</tr>
<tr>
<td>• Pre-existing and functioning social support mechanisms (designed to assist less wealthy members through traditional loans, gifts, provision of labour or other means).</td>
<td>Inappropriate government policy preventing the use of alternative or innovative systems.</td>
</tr>
<tr>
<td>• Pre-existing indigenous services e.g. traditional healers, midwives or teachers.</td>
<td>Exclusion of key stakeholders who therefore undermine the process/project.</td>
</tr>
<tr>
<td>• Local willingness to pay for the service in question or at least contribute to cost sharing.</td>
<td>Lack of knowledge among professionals of community-based approaches; tendency to focus on technical rather than social aspects of the service; ‘top-down’ planning.</td>
</tr>
<tr>
<td>• High levels of indigenous technical knowledge.</td>
<td>Professional biases e.g. lack of respect for indigenous knowledge; urban bias.</td>
</tr>
</tbody>
</table>

In previous sections of this review, a number of key factors that influence community participation in animal health in Somali areas have already been mentioned. From the positive perspective, Somali pastoral society is based on well-defined and democratic social units (dia-paying groups, section 2.2) and the high dependency of Somali pastoralists on their livestock (section 2.1) is demonstrated by local prioritisation of veterinary services. On the negative side, continuing conflict and civil disorder (section 2.3) tends to disrupt development activities and undoubtedly, there is widespread belief that aid agencies are first and foremost, providers of free goods and food. In the author’s view, among Somali pastoralists this attitude has more to do with opportunism rather than dependency. This section aims to provide information on some of the other factors in Box 3 that encourage the development of community-based services. Examples of community-based projects are also provided in order to show that participation can be effective in Somali communities despite constraints such as long-term conflict. In addition to these examples, there are experiences of using participatory methods in Somalia that have been well-documented and include discussion of the value of participation in local institutional development (Ford et al., 1994) and natural resource management (Inglis, 1997).
3.1 Indigenous services and social support systems used by Somali pastoralists

Regarding pre-existing or indigenous systems used by Somali pastoralists, these systems are relevant to community-based animal health because they demonstrate that communities are already organising themselves, either collectively or individually, to use or provide a service that they perceive to be beneficial. In areas where such services have existed for long periods, it is likely that effective community-level forums already exist and people have developed a way of supporting the workers involved. In this situation, there are often useful lessons to be learned about aspects of CAHW systems such as CAHW selection, incentives and accountability. The most common, community-organised and indigenous social support mechanism among Somalis is the giving of alms. This Moslem practice requires the collection of money or livestock by elders from the community for redistribution to less wealthy people. In terms of traditional services, these include Koranic schools and a range of health practitioners from herbalists to bone-setters.

3.1.1 Koranic schooling

One of the best examples of a self-sustaining traditional service in Somali areas is the system of Koranic education. This system is based on mobile schools or *dukxis* that follow the herds as they move in search of grazing. Koranic teaching takes place in the early morning or evening when livestock are enclosed near the homesteads and children are free to attend classes.

Box 4
The Somali system of Koranic schools or *duksis*

"Traditionally the duksis are mobile, moving with the herders in their seasonal migration patterns. They utilise available natural resources such as bark for writing boards and tree sap for inks, therefore never being reliant on provision of textbooks, materials or salaries from outside. Koranic teachers working within the nomadic sector are a crucial part of the community. As herders themselves, they move with the nomadic families, are paid a wage in the form of stock or milk, and provide a continuous theological foundation for the children.

It is common for most pastoralists to diversify between livestock management and formal education. Out of 4 or 5 children it is likely that 1 or 2 will be sent to a formal school, with the remainder staying within the olog to receive Koranic teaching and look after the livestock. The Koranic schools however are considered to be the most important form of education and if forced to prioritise between secular and Koranic schools, parents will always chose the duksis."


Some 35 years earlier, a similar system of Koranic education was described by Lewis (1961) and it was noted that there were hundreds of traditional schools throughout northern Somalia. Regarding payment of sheikhs for their teaching, "Often a lamb or the equivalent in cash is paid for every section of the Koran which the pupil masters, and when he has finished the course, a young camel is usually asked for by the teacher". It was also noted that religious teachers and sheikhs gained income through the sale of Koranic verses to pastoralists for use in amulets.

The benefits of these systems were noted by the Ministry of Education in Somalia many years before the civil war. Realising that conventional education services based on modern, fixed point schools

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6 These amulets, called *xirsi* or *qardhaas*, and used to protect both humans and animals (particularly young camels) from ill-fortune and in the case of livestock, herders were effectively paying for a type of animal health service.
were largely unworkable for pastoralist communities, they sought to integrate Koranic schooling into the official education programme (Gorham, 1978).

3.1.2 Traditional medicine

In common with other pastoralist societies, traditional healers in Somalia offer an important service to people who have limited access to hospitals or other medical facilities.

"These healers use various methods in their practice. Some rely on magical rites, intended to pacify spirits who are believed to have caused the illness. Others are specialised in healing broken bones by manipulation, a practice which is very often successful. Many healers use preparations of plants in their practice. Some of these use the plants as adjuvants for a treatment which is mainly based on magical rites, whereas others regard the plant preparations as real drugs which have a direct action on the body and can help to heal a certain disease".

(source: Sameulsson et al., 1991).

In addition to spiritual healers, bone-setters and herbalists there are also traditional birth attendants, dentists and other types of indigenous health worker and typically, they receive some form of payment for their service. The potential value of medicinal plants in Somalia was recognised by the Somali health authorities many years ago (Elmi, 1980) and prompted the Faculty of Medicine at the Somali National University to begin researching this local resource with assistance from Swedish partners. This work led to the development of an inventory of Somali medicinal plants for the southern most regions of the country. More recently, there have also been calls to incorporate traditional healers into primary health care systems in Somalia (Helander, 1990).

3.1.3 Traditional restocking

Many pastoral groups in eastern Africa and the Horn of Africa have traditional and often complex methods for assisting poorer people or those who experience sudden loss of livestock through calamities such as disease outbreaks or drought. In Somali society, membership of a dia-paying group automatically provides access to an indigenous social support service to those who fall on hard times. Somalis use the word cayd to describe someone who becomes destitute through the loss of all their animals. When discussing how such people would survive, an elder in Somaliland explained that “He depends on the dia paying group. He just lives with them. They nurse him, they feed him. He depends on his family. Yesterday when we came we saw that there had been very strong rain and trees had fallen. The rain took many sheep from one family and that family became totally poor, say in Somali, cayd. Then the man of that family went to the relatives and dia paying group and they gave him many animals. Now he has more than before. Every family he came to gave him one or two sheep and goats” (Ahmed Aden and Catley, 1993a). In the Somali region of Ethiopia, four main types of traditional restocking are used as detailed in Box 5.

In common with Koranic schooling, the existence of well-organised traditional restocking in Somali areas is an indication that communities can organise and manage themselves effectively. Using the principle of build upon things that people already know and do, Save the Children UK (SCF) in Ethiopia worked with Somali communities do develop a large-scale restocking programme in response to an influx of destitute returnees from Djibouti. This programme was ongoing at the time of writing and in terms of participation, enabled communities to take responsibility for key aspects of project design, implementation and monitoring.
Box 5
Traditional Somali systems for provision of livestock to poor families

**Free gift - xologoyo**
This is a free gift of livestock to a needy family. A committee of elders is organised to collect livestock from relatives of the recipient family and the number of animals provided depends on whether the family is expected to engage in farming or herding activities.

**Loan – maalsin**
A loan of animals is usually arranged between two individuals and involves lactating cattle or goats. The borrower will return the original stock to the lender with any offspring, when the animals give birth. Alternatively, the borrower may keep the offspring and return only the adult females to the lender. The terms of the contract between lender and borrower depend on kinship ties between the two parties.

**Marriage**
When a poor man with no livestock marries, his relatives will give him livestock. There is no specific type or quantity of animals which is provided. When a woman is married by a poor man, her relatives support her through provision of livestock when she visits her father's family. Mostly, the providers are her father, brothers and uncles.

**Alms giving**
Alms giving, when related to Somali customs and livestock provision, requires those people who hold a certain number of livestock to provide animals to poor families as follows:

<table>
<thead>
<tr>
<th>Livestock owned</th>
<th>Number in herd</th>
<th>Livestock to be donated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camel</td>
<td>5 or more</td>
<td>1 sheep, 2 years old</td>
</tr>
<tr>
<td>Cattle</td>
<td>30 or more</td>
<td>1 calf, 2 years old</td>
</tr>
<tr>
<td>Sheep/goats</td>
<td>40 or more</td>
<td>1 sheep, 2 years old</td>
</tr>
</tbody>
</table>

A man with 4 camels is not obliged to give alms until he has 5 camels. As the herd of an alms giver increases, so does the number of animals that are donated - a man with 15 camels would provide 3 sheep. Alms giving occurred once a year and was coordinated by a committee of elders who collect livestock from the alms providers.

(source: Save the Children UK, 1996).

3.2 Use of community participation by development agencies in Somali areas

3.2.1 Support to traditional restocking in the Somali National Regional State (SNRS), Ethiopia

When fighting in Somalia was at its peak or when conflict was compounded by drought (1973, 1988 and 1991), SCF's work in the SNRS focussed on emergency and relief inputs such as needs assessments and emergency feeding programmes. In 1993 SCF took a more long-term view of assistance to the region and developed rehabilitation programmes comprising inter-linked agriculture, livestock, human health, education and water projects. During this period, the organisation embarked on a process of learning how to do participatory development with Somali communities. The key features of this process were training in and application of participatory rural appraisal and commitment to the development of a strong team of Somali staff, some of whom were former refugees themselves.
In 1995, participatory needs assessments in the SNRS identified ‘lack of livestock’ as a major concern of agropastoral communities in Jijiga and Fik zones. When investigated in more detail, this problem had arisen because of large numbers of Somali returnees who were being absorbed by their communities and according to Somali custom, were entitled to receive traditional support such as that described in Box 5.

However, the longevity and severity of conflict in the area had reduced livestock holdings to such an extent that traditional restocking was no longer possible. Hence, the problem ‘lack of livestock’ referred to a well-established but exhausted traditional social support mechanism. Following a study on traditional restocking, SCF began to implement a pilot project to test methodologies and determine whether the traditional system could be assisted with external support.

The pilot restocking project relied heavily on community participation and an understanding of local forums. The first visit to a target community involved the field team meeting with the whole community in a shir beeleeed. At this meeting the team explained the objectives of the project and sought general information on subjects such as traditional restocking practices, preferred types of livestock and local veterinary services, if any. It was agreed that six adult female sheep and goats were to be provided to beneficiaries. The number of animals provided was influenced by the project budget and discussions with target communities - a local wisdom stated that after six years, six females produce so many animals that the herd cannot be counted. Target communities were responsible for selecting the beneficiaries and arranging procurement of livestock from local markets.

At the time of procurement, beneficiaries were able to select the animals that they preferred and animals were then checked by staff from the government veterinary services. Once the animals had been selected and checked for signs of ill health, letters of agreement were signed and SCF staff paid for the stock. In order to increase the number of beneficiaries, a system for redistributing offspring from the first beneficiaries to other needy families was designed. The system was based on ‘first-level’ beneficiaries providing 50% of offspring to ‘second-level’ beneficiaries during the first year of the project.

The team then split into three and arranged separate meetings with men, women, and women and children. In these meetings focus group discussions were used to collect more detailed information on livestock matters, including the livestock preferences of the particular groups and definitions of wealth and poverty in relation to livestock holdings. Based on these meetings the team determined the number of beneficiary households that could be restocked in the community. The number of beneficiaries and the number of livestock to be provided was then discussed in a second shir beeleeed and was related to available water and grazing resources. At the end of the meeting the community was asked to select beneficiaries according the lowest wealth grouping that they had defined.

The process of selecting beneficiaries took one to two days. Once completed, a third shir beeleeed was held and all beneficiaries (both first and second-level) attended with the rest of the community. In this forum, the contract between every first and second-level beneficiary was discussed, clarified and agreed. At this stage the agreement was oral but later, was written and signed by all parties.

The next stage of the project involved the formation of a gudiga xooloogoyada (restocking committee) that was responsible for overseeing both livestock purchasing arrangements and distribution of livestock from first to second-level beneficiaries. The committee usually consisted of two elders, two women and the chairman of the local farmers association. Veterinary care of livestock was arranged in partnership with the local Ministry of Agriculture veterinary staff and by training.

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7 A beel can be regarded as a Somali agropastoral or farming community's home area, including land which is owned or used by the community. A shir is a meeting.
community animal health workers. The latter were able to procure veterinary drugs from private sources.

Apart from the system of redistributing livestock offspring from first to second-level beneficiaries, all stages of the restocking project were closely linked to traditional systems. For example, livestock were a traditional form of assistance to poor families and the recipients of livestock under traditional restocking were similar to the project beneficiaries in terms of age, sex and wealth. Also, in both the traditional systems and the project, communities were responsible for selecting beneficiaries; the type of livestock provided by the project was similar to some methods of traditional restocking.

3.2.2 Lessons from primary human health services

The problems of delivering primary health services and primary animal health services to pastoral communities are similar in terms of poor infrastructure, mobility of target communities and the reluctance of professionals to work away from large towns or cities. When discussing primary health care provision to pastoralists in southern Somalia before the civil war, Helander (1990) noted the failure of the public sector to provide adequate services and the rapid expansion of private pharmacies from urban to rural areas. The demand for health services from pastoralists prompted "... an enormous enterprise potential in the form of privately organised health care". Some of the private pharmacies developed into complete health centres by cooperating with local health workers and in some cases, opening small diagnostic laboratories. These pharmacies appeared in many rural towns and were used by pastoralists when they visited livestock markets. In terms of improving official primary health care systems, Helander advised integration of the numerous drug traders and private pharmacies with primary health workers and traditional healers.

Describing a primary health care project in north west Somalia between 1982 and 1986, Bentley (1989) noted the success of a system based on community health workers who were selected and supported locally. Various aspects of this system are relevant to discussion on CAHWs.

The entry point for the project was a village-scale administrative unit called a tuulo. The tuulo was requested to establish a health committee whose main responsibility was to coordinate the selection of community health workers (CHWs). The selection was done by the community as a whole using criteria from the project as guidance. The criteria for selection were that candidates should:

- have lived all their lives in the community and should be established there, preferably with family;
- not be a close relative of a member of the health committee;
- be literate;
- have some history of community service where possible;
- be between 20 and 45 years of age;
- if possible, be female.

For CHW training, various training tools were compared and of these role plays were considered to be extremely useful. This findings was related to the important role of song, poetry and drama in Somali culture.

The CHWs provided curative treatments in addition to advice on disease prevention. The curative aspect of their work was considered to be essential to their local acceptance.

It was stressed that the CHWs were intended to be an employee of the community rather than the government and therefore, incentives for the CHWs were to be determined by the community. This approach worked well and 75 out of 85 CHWs (88.2%) were still working...
"There are many contributing factors as to why work continues. Often presents of cigarettes, grain, sugar etc. are given periodically by the elders. In many cases, bachelor CHWs are provided with accommodation - rent free. Also, often while making home visits to sick people there will be some form of payment in kind, such as a meal, container of milk, or meat if available. Secondly, even the CHWs working hard at their job usually have their own farms and herds. Thus, anything made from his health activities is extra income. CHWs also received payments of cash and livestock” (Bentley, 1989).

4. AN OVERVIEW OF VETERINARY SERVICES IN SOMALI AREAS

4.1 Traditional veterinary practice

Indigenous animal health knowledge and practices are placed at the beginning of this section on veterinary services because their use pre-dates the arrival of western-style services in Somali areas and continues up to the present day. It is noticeable that despite the lack of modern veterinary services in many pastoral areas of Somalia and the Ogaden, these regions continue to supply the Somali livestock export market and have done so for many years.

The first accounts of indigenous Somali animal health care appeared in records and published papers arising from the colonial veterinary services of the Somaliland Protectorate. The information presented included details of traditional grazing practices designed to prevent or limit tick infestation and worm infection, the use of salt and minerals as dietary supplements, the treatment of wounds with salt washes, the application of cautery and traditional vaccination practices. Somali names for livestock disease and parasites were also reported at this time (Peck, 1939, 1940; Hunt, 1951; Mares, 1951, 1954a, 1954b).

“... it is surprising to find that the nomad recognises the flies that spread trypanosomiasis; that he has a good idea of the infective nature of disease and knows that cattle with rinderpest are dangerous to other cattle; and that he has learnt logical and effective, though very primitive, methods of immunisation” (Mares, 1954b).

The British veterinary team working in northern Somalia between 1969 and 1972 also realised that herders possessed useful knowledge related to animal health. For example, when discussing trypanosomiasis in camels it was concluded that despite laboratory facilities,

“...the best diagnostic tool was probably the camel owners own opinion. This is not something to be dismissed lightly because a camel owner knows his animals and the disease intimately” (Edelsten, 1995).

More than forty years after Mares’ publications, veterinarians in northern Somalia/Somaliland noted virtually identical traditional practices and disease terminology to those reported previously (Catley and Mohamed, 1995, 1996) and this was perhaps, a measure of the failure of modern veterinary services to reach more remote areas.

While veterinarians might debate the value of some traditional practices, the sustainability of these indigenous systems should not be overlooked. Many Somali remedies for livestock ailments utilise locally available plants or other resources (Hadrill, 1993) and in some cases, treatment or disease management strategies appear rational when compared with western, scientific knowledge. For example, the use of salt in wound treatments; the separation of sick from healthy stock; the avoidance
of tick-infested areas. In general veterinarians have mixed opinions regarding the effectiveness of traditional vaccination against bovine contagious pleuropneumonia, as reported by Mares (1951), and according to Marx and Wiegand (1987), traditional responses to Q-fever in cattle were not effective. The Somali preference for camels over other types of livestock is also reflected in the literature on indigenous livestock practices and detailed accounts of traditional breeding and husbandry are available (Nur, 1984; Elmi, 1989; Mohamed and Hussein, 1996).

Interest in indigenous veterinary knowledge in Africa has been growing during the last ten years or so and it is evident that Somali herders possess detailed animal management and health skills which have evolved over centuries. The rich Somali vocabulary for livestock diseases and vectors, and the scope of the traditional pharmacopoeia indicates that indigenous knowledge should feature more prominently in the development of primary veterinary services (Catley and Walker, 1998). While some documentation of indigenous veterinary knowledge has taken place and more than 135 veterinary medicinal plants have been recorded in the Ogaden alone (Catley et al., 1996), much more work is required to validate plant remedies. Indigenous knowledge is not only part of the Somali cultural heritage, but also has practical applications for the development of community-based approaches to service delivery. The latter are discussed in more detail in section 5.0.

4.2 Modern veterinary services in Somali areas

Until the late 1980s, the development of veterinary services in Somali areas followed a similar pattern to many other African countries. Colonial governments established modern veterinary infrastructure and facilities for quarantine, food hygiene, research and clinical work. At independence, colonial facilities and systems were inherited by new African governments and in the post-colonial era, veterinary services attracted considerable donor support. However, the world recession in the 1970s and 1980s prompted the emergence of structural adjustment policies and worsening veterinary service delivery by the public sector (Holden et al., 1996).

4.2.1 Somalia/Somaliland

The development of livestock services in Somalia began in the early 1900s with the arrival of an Italian administration in the south and a British administration in the Somaliland Protectorate. The Italians established the first veterinary institute in southern Somalia at Merka in 1914 whereas British veterinary facilities were based in Hargeisa in the north. Soon after the arrival of the first British veterinary officer in 1924, Somalis were trained as part of a rinderpest and CBPP disease reporting system (Baumann, 1993). The Somaliland Camel Corps comprising mobile teams of veterinary personnel was also established and numerous field scouts were employed (Peck, 1962).

In the post colonial period, government veterinary services in southern and northern Somalia were merged and up until 1975 activities focussed on rinderpest eradication, latterly through the JP15 campaign. In the 1980s, government veterinary services in Somalia were reviewed in detail by GTZ and it was noted that while the livestock sector accounted for 41.5% of gross domestic product, the budget for the Ministry of Livestock Forestry and Range amounted to only 1% of the national budget (Baumann, 1993). In common with veterinarians in many other national veterinary services facing financial constraints at this time, Somali veterinarians were concentrated in urban centres and basic services in the main livestock producing areas deteriorated. Veterinary manpower levels were also considered to be far below those required for preventive disease control measures in nomadic systems (Table 1).

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8 Note that in this study, a causal agent was not identified and the disease in question, called qanje, was never fully characterised by the researchers.
In part, the combination of inadequate budget and low manpower levels led GTZ veterinarians to seek alternative solutions to delivering primary animal health services to pastoralists, leading to the development of the Nomadic Animal Health Auxiliary (NAHA) system in the Central Rangelands of Somalia. This system used NAHAs as both providers of a basic curative service and a source of information on livestock disease. Although the system was brought to a premature end at the outbreak of the Somali civil war, it demonstrated that basic level veterinary workers were an extremely useful way of complementing a depleted government veterinary service. The NAHA system is discussed in more detail in section 5.1.

Structural adjustment in Somalia in the 1980s included attempts to reorganise state veterinary services, improve cost recovery and liberalise the importation and sale of veterinary pharmaceuticals (Costagli, 1996). In 1988 the Somali government allowed private companies to import veterinary drugs for the first time and drugs became available through private pharmacies. However, the outbreak of civil war in Somalia led to a dramatic cessation of both public and private sector veterinary activities. The war resulted in widespread destruction of government veterinary facilities and records. Many veterinary professionals left the country along with aid agencies who were involved in livestock development.

Immediately after the overthrow of Siad Barre in 1991, veterinary inputs were included in the emergency relief programmes of agencies such as the International Committee of the Red Cross (ICRC). A number of other international non governmental organisations (NGOs) such as ActionAid/VetAid, CARE, COOPI, Africa 70, Terra Nuova and Oxfam Quebec also became involved in animal health work. Activities varied from support to livestock export facilities and diagnostic laboratories to the provision of primary veterinary services for pastoralists through community-based workers. Although many relief programmes provided veterinary treatments at subsidised rates at this early stage in the rehabilitation process, as early as 1992 ICRC and CARE began to meet Somali veterinarians in order to discuss options for developing more sustainable veterinary services. This activity related to ICRC’s desire to initiate more long-term approaches to service delivery before their programme ended and CARE’s institutional experience in small business development. These initial meetings indicated that support to private veterinary systems was a logical option in an environment characterised by the absence of government and the spontaneous emergence of a whole range of private services, including health, education, electricity, water and communications. In this situation ‘privatisation’ was something of a misnomer because there are no recognisable government services to reform or sell off to the private sector.

While and ICRC were holding discussions with Somali veterinarians, the ActionAid Animal Health Programme in Sanaag region was also investigating options for moving away from a subsidised veterinary drug supply system. Two studies with traders and livestock herders supported the findings of the ICRC/CARE workshops and in addition, many NGO veterinarians were aware of the veterinary service reform programmes in neighbouring countries. The ActionAid studies are described further in section 5.2. In 1993, NGOs in northern Somalia began to coordinate their activities through meetings organised by CARE in Hargeisa and it was agreed that the provision of subsided veterinary medicines by NGOs should cease. As early as October 1993 and with support from the British Overseas Development Administration, ActionAid were implementing a ‘privatisation’ project aimed at the establishment of small veterinary pharmacies to supply an existing network of CAHWs. Credit to veterinary personnel was made available in the form of kickstarts of veterinary medicines; these activities are discussed in more detail in section 5.2.

In early 1994 the veterinary privatisation theme was adopted by the European Union (EU) and in July 1994, an EU programme began which coordinated 12 NGOs and the German bilateral agency, GTZ (Costagli, 1996). These organisations operated in areas not already covered by the British NGOs in...
Sanaag and Sool regions. The common approach of agencies within the EU programme was support to Somali veterinarians and veterinary assistants in the form of business management training and kickstart credit packages. In the context of this paper, it is interesting to note that whereas both Oxfam UK/Ireland and ActionAid based their work around the perceptions of community-based, indigenous institutions and livestock owners, the EU programme focussed on veterinary personnel, particularly veterinarians, as the main project partners.

To date, a key and lucrative role for private veterinarians in Somalia has been the certification of livestock for export to the Gulf States. This work is based on the testing of export stock for brucellosis and to a large extent, the private veterinary associations involved have developed in the absence of significant support from aid agencies. All private veterinary activities in Somalia, whether related to the export trade or sale of veterinary pharmaceuticals in-country, continue to develop in the absence of government regulations and market forces seem to be the main determinant of service quality. A further crucial factor concerning private veterinary services in Somalia is the role of a small but highly influential group of businessmen in the livestock export trade and the importation of veterinary medicines. As extremely wealthy private operators, some of these individuals are likely to be key stakeholders in any process that affects their business interests.

Table 1
Veterinary manpower in Somalia and the Somali National Regional State (SNRS) in relation to recommended levels

<table>
<thead>
<tr>
<th>Levels recommended by:</th>
<th>Livestock production system</th>
<th>VLU¹/veterinarian</th>
<th>VLU/veterinary assistant</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEDES/GTZ</td>
<td>Nomadic and sedentary systems</td>
<td>240,000</td>
<td>12,500</td>
</tr>
<tr>
<td>FAO</td>
<td>Traditional</td>
<td>30,000</td>
<td>not stated</td>
</tr>
<tr>
<td>Somalia – actual levels</td>
<td>Pastoral and agropastoral</td>
<td>484,835</td>
<td>16,425</td>
</tr>
<tr>
<td>SNRS – actual levels</td>
<td>Pastoral and agropastoral</td>
<td>344,000</td>
<td>165,385</td>
</tr>
</tbody>
</table>

Notes:
- 1 VLU is equivalent to 1 camel, 1 cow, 10 small ruminants or 100 fowl.
- Recommended levels cited by Baumann (1993); VLU/veterinarian for Somalia quoted as veterinarians in the field.
- Figures for Somalia are pre-civil war data; figures from the SNRS relate to 1997.

4.2.2 South East Ethiopia

The Somali-occupied area of Ethiopia in the south and east of the country measures more than 400,000km² of semi-arid and arid land and accounts for more than 20% of the entire country. Now called the Somali National Regional State (SNRS), this region has a long border with Somalia and northern Somalia/Somaliland and as can be seen in Figure 4, traditional clan boundaries transgress the official border along its entire length. Consequently, the economy and culture of the SNRS and Somalia are intimately related. The profound lack of development in the SNRS can be explained by reference to conflict and political instability on both sides of the Ethiopia-Somali border (see Box 2). Conflict has resulted in large-scale displacement of Somalis between Somalia, Ethiopia and Djibouti,
and the emergence of long-term refugee/returnee camps. In 1997 approximately 200,000 people were thought to reside in camps along the Ethiopia-Somali border. In addition to the adverse affects of the Ogaden war, the Somali civil war and ongoing clan fighting in Somalia, the SNRS also suffers due to its geographical size and isolation, very limited infrastructure and years of political marginalisation. Although the recent move towards regional autonomy in Ethiopia has resulted in a regional government for the SNRS dominated by Somalis, numerous armed opposition and fundamentalist groups continue to disrupt security in the region.

In the SNRS there were two providers of government veterinary services, the Ministry of Agriculture (MoA) and the South East Rangelands Project (SERP). The MoA veterinary service was organised under the Animal and Fisheries Resources Department in the Regional Bureau of Agriculture. The veterinary activities of SERP were organised under the Animal Health and Production Section. SERP was a joint African Development Bank (ADB)/Federal Government of Ethiopia project and began operations in 1990. The initial project period was six years although the project was granted numerous extensions and continues to be operational in 1999.

All levels of veterinary staff - veterinarians, animal health assistants, laboratory technicians and animal health technicians - were working in the SNRS, mostly with the MoA and SERP. The latter recently reduced veterinary staff numbers from 91 to 49 as part of a restructuring process. Table 1 relates veterinary manpower in the SNRS with the livestock population and compares regional data with the situation in Somalia prior to the civil war. The use of Veterinary Livestock Units (VLU) enables a comparison of veterinary manpower resources between regions or countries but also, with recommended staffing levels. In common with Somalia, staffing levels were far below the recommended levels. More information on personnel, veterinary infrastructure, budgets, activities and drug supply in the SNRS can be found in Catley et al. (1997) but in summary, the problems facing government veterinary services in the region were typical - lack of budget, demoralised staff, limited infrastructure and poor management. Despite a reasonable number and distribution of government veterinary clinics and outposts, the lack of transport for staff led to poor coverage of these facilities to approximately 2.7% of the region (Catley et al., 1997). However, the demand for basic veterinary services from livestock owners remains high.

In response to the problem of poor animal health services in the SNRS, in 1995 Save the Children (UK) began working with regional government veterinarians to implement a pilot community-based animal health project. This project is described in some detail in section 5.3 as it shows how Somali veterinarians became very committed to the community-based approach and saw opportunities for private veterinary pharmacies to develop links with CAHWs.

Regarding policy on animal health services in the SNRS, the overthrow of the Marxist-Leninist Mengistu regime in Ethiopia in 1991 led to a new transitional government and the introduction of regional autonomy. The new economic policy of the transitional government included liberalisation of the Ethiopian economy by stimulating private entrepreneurship. In line with this policy, the Ministry of Agriculture produced provisional criteria and regulations for private veterinary practice and drug handling, and a veterinary drug marketing policy in 1992. Further commitment to veterinary privatisation in Ethiopia was demonstrated by the implementation of a nationwide Pan African Rinderpest Campaign (PARC III) project that aimed to provide training and credit to veterinarians and veterinary assistants who wished to engage in private practice.

Up until 1997, the beneficiaries of PARC III were mainly veterinarians in highland areas of Ethiopia near to the capital Addis Ababa. In order to introduce aspects of veterinary privatisation into the SNRS, Save the Children (UK) began the Veterinary Services Support Project (VSSP) with the SNRS Regional Bureau of Agriculture in 1997. The first stages of this project included a technical situation analysis, the results of which were combined with stakeholder workshops in order to produce a
regional policy statement on veterinary service delivery. At the time of writing, veterinarians in the SNRS had received training in small business proposal writing and were working on business plans as part of their credit applications to the VSSP. The stakeholder analysis conducted by the VSSP proved to be a useful method for involving Somalis with different agendas and needs in joint analysis of opportunities for improving basic animal health services. The methodology and findings of the workshop are relevant to CAHWs are summarised in section 5.3.

4.2.3 North East Kenya

In north east Kenya there has also been a marked change in the provision of veterinary services. The state previously played a major role in the livestock sector, with support to boreholes, purchase of livestock through the Livestock Marketing Division and provision of veterinary services, including vaccination campaigns and supply of veterinary drugs. However, service provision focussed on settlements rather than reaching out to pastoralists.

Since the early 1990s the government role in service provision has reduced sharply under the pressure of structural adjustment policies. Cost sharing was introduced in water, health and veterinary services and some staff from the relevant line ministries were released from government employment. Attempts to establish revolving funds included efforts by District Veterinary Offices to sell drugs to pastoralists at prices greater than cost price. Separate, private veterinary drug supplies have also developed alongside the government supply system. Due to the long border between north east Kenya and Somalia, and the presence of clans whose territories cross the border, drugs available in Somalia are frequently also available in Kenya.

Regarding the use of CAHWs, information on Oxfam UK/Ireland's daryelle programme is provided in section 5.4. Within Kenya generally, there has been much discussion on the legal status of CAHWs and the need for appropriate policy and legislative change that would allow CAHWs to receive official recognition. In Somali areas of Kenya, a recent review of veterinary services in arid and semi-arid lands concluded that CAHWs should be supported and that in Garissa for example, links between a private veterinarian, animal health assistants and CAHWs may be viable (CONSORTIUM BCEOM/SATEC, 1998). Also working in the Somali areas of Kenya, Little (1996) advocated more investment in community-based animal health services, as have rinderpest control workers in the same area (Mariner and Flanagan, 1996).

5. PRIMARY ANIMAL HEALTH SERVICES IN SOMALI AREAS: EXPERIENCES WITH COMMUNITY-BASED SYSTEMS

It is evident from earlier sections of this report that Somali pastoral areas appear to be well suited to CAHW systems. Government veterinary services are either poorly developed or non-existent in these areas and private veterinary facilities, when present, tend to be limited to urban centres. In towns the clientele of the private veterinary pharmacies and shops are wealthier livestock owners, livestock traders and people involved in the livestock export trade. As a general rule, in most pastoral areas it can be assumed that animal health services are still very much based on traditional medicine and access to modern drugs and appropriate advice is limited.

In common with other pastoral areas, Somali regions are characterised by their large size, harsh climate, poor infrastructure and insecurity. In these situations, the feasibility of establishing western-style curative veterinary services using veterinarians to actually visit and treat sick livestock is low. There is a wealth of published material to support this view. While short-term relief projects implemented by external agencies can operate mobile teams of professional staff, particularly for vaccination programmes, this approach cannot be regarded as a long-term solution to the provision of
primary veterinary services in pastoral areas.

Within the general theme of primary animal health services and community participation, there are a number of recent and ongoing projects in Somali areas that are highly relevant to the community-based and privatised approach favoured by PARC-VAC. In this section, an attempt is made to outline some of the key features of these projects and in the case of ongoing work, show that community-based animal health systems are already a reality in areas of northern Somalia/Somaliland, Ethiopia and northern Kenya. Furthermore, reviews of ongoing community-based animal health projects in Somali areas have been favourable and show that participatory approaches are a viable option in Somalia.

In the absence of effective government in Somalia/Somaliland the problem of official CAHW regulation and quality control is of particular interest. When considering this issue it should be noted that even in those countries with established government veterinary services, capacity to monitor and control CAHW activities in pastoral areas is limited - reports of problems such as misuse of drugs by CAHWs are largely anecdotal and few in number. According to the benefits offered by CAHWs and evidence of impact, many countries are in the process of reforming policy on CAHWs and veterinarians are beginning to realise that more flexible legislative frameworks are required. OAU/IBAR is promoting systems that link CAHWs to private veterinarians to ensure adequate quality control. In addition, an involved participatory approach to the development of services automatically helps to ensure local accountability. This is an important but often overlooked aspect of CAHW systems - when communities have a clear stake in this type of service, they monitor CAHW behaviour and activities. News of ineffective treatments travels quickly and ultimately, if CAHWs provide a poor service they soon become redundant. It is noticeable that in the case of southern Sudan, there is no effective government but CAHWs supervised by community-level forums and NGOs are proving to be highly effective (Jones et al., 1998).

In the Somali context, the current lack of government means that most services currently operate in an unregulated private sector. However, services do exist and presumably these are subject to market forces and local perceptions of need. At the present time, there seems to be no practical reason why this situation should prevent the development of primary animal health services.

5.1 The Nomadic Animal Health Auxiliary (NAHA) system, Central Rangelands, Somalia

The Nomadic Animal Health Auxiliary (NAHA) system was established as a component of GTZ’s Central Rangelands Development Project (CRDP) in Somali between 1982 and 1989. The NAHA system is a useful example of a primary animal health service because although it was not described as ‘participatory’ at the time of implementation, it was probably the first CAHW-type system to be established in a Somali area. GTZ’s experiences with the NAHA system are also very well-documented (Baumann, 1990; Zessin et al., 1993). Unfortunately, the project was closed prematurely in 1989 due to civil unrest.
The decision to establish the NAHA system seems to have been influenced by two key factors. First, a comprehensive review of government veterinary services in Somalia was conducted and this highlighted a number of serious financial and manpower constraints which were hindering the delivery of services to pastoralist communities (Baumann, 1993) as outlined in section 4.2.1. Second, the veterinarians in the GTZ team had prior experience of conditions in pastoral areas and were familiar with the barefoot vet and basic-level epidemiological surveillance systems described by other workers, notably Halpin (1981), Schwabe, (1980;1981), Schwabe and Kuojok (1981) and Sandford (1981). Consequently, at the onset of the NAHA system the objectives were twofold:

- Improvement of clinical services and therapeutic measures in terms of availability, accessibility and efficiency for nomadic livestock owners in remote pastoral areas.

- Use NAHAs in an ongoing disease surveillance system to enhance veterinary services delivery in traditional grazing areas (deegaans) by more selective and effective actions in disease control and prevention (Baumann, 1990).

Due to longitudinal disease surveys conducted by the CRDP, the project had relatively good baseline data on important livestock diseases in the project area. The NAHAs were expected to diagnose and treat infectious diseases and were supplied with an initial kit comprising basic veterinary equipment and drugs. As the government veterinary service had a long history of conducting vaccination campaigns, the NAHAs were not expected to vaccinate livestock. The NAHAs were expected to interview livestock owners in order to collect information on livestock disease that would feed into the epidemiological surveillance system. Rather than being a government employee, the NAHA was described as follows.
In our system, the NAHA is an independent, privately-practising, informally-trained person of pastoral origin who is not on the payroll of any government service nor development project. He is an auxiliary in the sense of being a self-employed complement to official services, a person who lives a pastoral life himself. (Baumann, 1990)

5.1.1 Entry points and selection of NAHAs

The community level entry points in the NAHA system were Range and Livestock Associations (RLAs) in traditional grazing areas and village committees. When used, the RLAs had been established by the extension component of the CRDP and the village committees were part of the government administration. It was hoped that these structures would provide ‘community recognition and cooperation’ and they were provided with criteria on how to select NAHAs (Zessin et al., 1993). The criteria included intelligent, innovative, literate and less than 30 years of age; leaders, elders, Koranic teachers and religious leaders were excluded as possible candidates. A quota of at least one woman per deegaan or village was also set by the project in order to acknowledge the role of women in caring from small ruminants.

5.1.2 Training

The training methods used in the NAHA system comprised both conventional and participatory techniques and emphasised practical demonstration. Lectures were both informal and conversational and language of instruction was Somali. Each training session lasted 7 to 10 days and the curriculum included basic anatomy and physiology, diagnosis and therapeutics for important diseases, ticks and tick control, principles of preventive medicine and disease surveillance. Practical sessions included clinical examinations, drug administration, castration methods and post mortem examination. The training also included discussion on the revolving drug fund which was established within the CRDP to supply the NAHAs (see section 5.1.3 below). The initial training took place in July 1986 and involved 54 NAHA trainees, including 6 women (Baumann, 1990).

Refresher trainings for NAHAs were organised in mid 1988 and early 1989. These were 4 day courses in which disease surveillance needs were emphasised and a written disease reporting system was introduced.

5.1.3 Drug supply system

At the time of the CRDP the supply of veterinary medicines in Somalia was monopolised by the Ministry of Livestock, Forestry and Range. Therefore, the CRDP established a revolving fund system for the procurement and re-supply of drugs to the NAHAs. This system was dependent upon existing government structures for drug procurement and government regulations required the project to designate village committee chairmen or similar individuals as responsible for overseering the drugs used by the NAHAs and revenue collected. Drugs were sold at cost price plus a small mark-up for transport and wastage. Details of incentives for NAHAs were not available.

5.1.4 Monitoring

Follow-up of CAHW activities took the form of regular bi-monthly visits by project staff to interview NAHAs and collect information on disease incidence and economics, local knowledge of diseases and treatment and other factors. NAHA records were also inspected in order to check drug usage and the NAHA’s equipment was inspected.
5.1.5 Evidence of impact and efficiency

In terms of assessing the impact and sustainability of the NAHA system, various measures can be used. For example, the number of workers remaining in a system is an indication of local demand for the service and levels of incentive for NAHAs. In the GTZ project 53 trainees completed the original training course in July 1986 and at the beginning of 1989, 47 NAHAs were still active (89% of the original NAHAs). This is a strong indication that NAHAs were supported locally and received sufficient income from their activities to continue working with the project. Another measure of NAHA impact can be obtained from records of number of treatments by disease (Table 2).

Table 2
Examples of NAHA activity in two districts of the Central Rangelands, Somalia, 1987 and 1988

<table>
<thead>
<tr>
<th>Drug</th>
<th>Quantity</th>
<th>Value (SomSh)</th>
<th>Treatments per NAHA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>total</td>
</tr>
<tr>
<td>1987</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trypanocide (camel and cattle doses)</td>
<td>7320 doses</td>
<td>717,950</td>
<td>236</td>
</tr>
<tr>
<td>Oxytetracycline (sheep and goat doses)</td>
<td>1560 bottles</td>
<td>372,000</td>
<td>2515</td>
</tr>
<tr>
<td>Anthelmintic (sheep and goat doses)</td>
<td>8000 doses</td>
<td>63,360</td>
<td>645</td>
</tr>
<tr>
<td>1988</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trypanocide (camel and cattle doses)</td>
<td>2100 doses</td>
<td>168,000</td>
<td>68</td>
</tr>
<tr>
<td>Oxytetracycline (sheep and goat doses)</td>
<td>1560 bottles</td>
<td>58,800</td>
<td>451</td>
</tr>
<tr>
<td>Anthelmintic (sheep and goat doses)</td>
<td>17000 doses</td>
<td>302,600</td>
<td>1436</td>
</tr>
</tbody>
</table>

(exchange rate: 1 USD = 100 SomSh)

(source: Baumann, 1993).

These figures show that in the two districts in question, NAHAs were very active in treating stock for diseases such as trypanosomiasis, contagious caprine pleuropneumonia (CCPP; treated with oxytetracycline) and helminthiasis. The presence of these diseases had been confirmed in longitudinal surveys and hence there was technical data to show that these problems were indeed local priorities. In addition to treatments, NAHAs castrated 8829 animals between February 1987 and November 1988 and this work was considered to an important income-generating activity for them.

Regarding the value of NAHAs for disease diagnosis and surveillance, the most detailed disease surveillance data collected from NAHAs related to a respiratory disease in small ruminants called sambab, which was thought to be CCPP. The project was able to compare NAHA reports with serological survey results and concluded that the two sets of data were not statistically independent. Consequently, it was suggested that NAHAs could be a useful means of CCPP surveillance in the Somali rangelands (Baumann, 1990). Readers are advised to consult GTZ reports and Dr.Baumann=s MPVM thesis for more details of information collected by NAHAs on CCPP, abortions, contagious ecthyma, footrot and foot and mouth disease.

5.1.6 Conclusions

From the numerous reports and publications that were produced by the CRDP, it is evident that the
NAHA system provides many useful lessons for the future development of primary animal health services in Somalia. Not least, the project demonstrated that with adequate supplies of veterinary medicines it was possible for basic level Somali veterinary workers to provide a valuable service to pastoralists and contribute towards a disease reporting system. GTZ recognised that aspects of the system needed improvement and for example, questioned procedures for NAHA selection and the effectiveness of community-level forums that were part of the government administration (Baumann, 1990). Considering the Somali government’s attitude towards indigenous institutions during this period, it may have been extremely difficult for the project to identify entry points into communities which had not evolved via the government system. Despite these problems, GTZ concluded that “trainee selection is community based and one integral task of the village committees and associations is to monitor the performance of their NAHA” (Baumann, 1993). This is an important statement as it reflects both local ownership and control of the NAHA system. In addition, as livestock owners were willing to pay in kind or in cash for the services, the financial sustainability of the system looked promising.

A major determinant of the success of the NAHA system appeared to be drug supply and it was evident that the project staff considered liberalisation to be the logical step forward. In a climate of veterinary service reform and privatisation in Africa, it was felt that NAHAs "suggest a practical and sustainable level for veterinary privatisation under African pastoralist conditions" (Baumann, 1990). These sentiments have much in common with the community-based and privatised approach currently being advocated by OAU/IBAR in pastoral areas.

5.2 The ActionAid-Somaliland Animal Health Programme, Sanaag Region

The British NGO ActionAid has been supporting an animal health programme in Sanaag Region, northern Somalia/Somaliland since 1992. ActionAid had been involved in developing participatory approaches for many years and prior to the Somali civil war, had long experience of working with Somali communities in both the north and south of the country. The Sanaag animal health programme is of particular relevance to this review because after the civil war it was one of the first initiatives to train CAHWs and link them to private sources of veterinary medicines. As this system evolved more than four years ago and was still operational at the time the writing, it represents an important example of a community-based animal health system which continues to function in a Somali area with minimal external support.

Even considering conditions in other Somali areas, Sanaag is a very isolated and poorly developed region; it covers around 60,000 km² and has no tarmac roads or telecommunications. During the civil war, virtually all government buildings were destroyed, and records and equipment looted. In 1991 an assessment team from ActionAid and another British NGO called VetAid visited Sanaag in order to identify local priorities for relief and rehabilitation work and assess the feasibility of ActionAid becoming operational in the region (Hunter, 1991). This initial assessment identified poor animal health and water constraints as the two most important problems in the region and recommended interventions in these two sectors.

The ActionAid Animal Health Programme (AHP) began in May 1992 with funding from the British Overseas Development Administration and aimed to improve food security in Sanaag by establishing a primary animal health care service based on a network of CAHWs. The CAHW approach was considered to be appropriate because of the relative isolation of the region, it's very poor infrastructure, and the absence of Somali veterinarians (although some veterinary assistants with two

9 The animal health workers in the AHP were actually called Primary Veterinary Assistants (PVAs) but this term is synonymous with community animal health worker.
years formal training were present in the region). Also, it was thought that a CAHW system would utilise local knowledge of livestock ailments and would suit the pastoral production systems that were in use in the area (Catley, 1996). In order to design and implement the AHP, an expatriate veterinarian was recruited whose experience included the development of community-based animal health services with the Intermediate Technology Development Group in India. Consequently, this individual was familiar with participatory approaches in pastoral areas.

5.2.1 Entry points and selection of CAHWs

At this time, no formal government structures existed in Sanaag. The local community was represented by the *quurti*, a traditional council of elders representing the lineages of the various clans in the region. During the feasibility study, ActionAid worked directly with the *quurti* and the structure of this institution and other aspects of social organisation in the region are described by Ahmed Yusuf Farah (1993). One of the main functions of the *quurti* was to ensure that people in Sanaag were aware of the AHP and understood that the programme was operating through the authority of the elders. The *quurti* also assumed responsibility for the selection of CAHWs. It should be noted that during the early stages of the AHP, Sanaag was a highly insecure region and there was considerable pressure on the programme to demonstrate to the Sanaag community that it could provide useful assistance. Hence, negotiations which might have been more prolonged in other situations were conducted according to time and security constraints. As the AHP developed, a sub-group of nine elders was selected by the *quurti* to work with the programme. This group of elders, called the NGO Committee were selected by the *quurti* to act as a link between the local community in Sanaag and ActionAid on a more or less daily basis.

5.2.2 Programme design

The AHP was based on a network of 30 CAHWs who were trained and linked to ex-Ministry of Livestock, Forestry and Range (MoLFR) veterinary staff and facilities. The three district veterinary department buildings in the region were rehabilitated and four ex-MoLFR veterinary assistants and other personnel were encouraged to form new 'District Veterinary Departments'. These departments received a monthly grant of $450 from the AHP and the veterinary assistants were trained as trainers of CAHWs. This training was based on participative training techniques.

The initial feasibility study conducted by ActionAid/VetAid in Sanaag indicated that herders considered the most important livestock health problems to be helminthiasis and tick-associated health problems, and therefore the AHP was based on the control of worms and ticks. The programme also trained CAHWs to treat trypanosomiasis in camels and use antibiotic for a range of bacterial and other diseases. In order to understand local perceptions and descriptions of other livestock ailments, the AHP formulated a 'pastoralists' dictionary' for livestock diseases and causal agents and documented the use of indigenous disease control strategies and plant remedies (Catley and Mohammed, 1995; 1996). The distribution of medicines to the CAHWs and monitoring their work was the responsibility of the district veterinary departments. Monitoring took the form of monthly reports by the CAHWs which detailed their activities and revenue collected from drug sales. ActionAid supplied drugs to the district veterinary departments but from the onset of the AHP, livestock owners had to pay for veterinary drugs and the cost of each item was agreed in meetings with the NGO Committee. At this early stage of the programme, the plan was to create a 'reserve fund' from the revenue gained from drug sales but also to support the CAHWs by allowing them to retain a proportion (70%) of the money collected. The NGO Committee was responsible for the collection and maintenance of money in the reserve fund.
In order to improve knowledge among herders about correct drug usage, ‘drug information leaflets’ were designed for distribution via the CAHWs to livestock keepers. The leaflets were written in Somali but contained minimal text and were illustrated with simple line diagrams. Although levels of herder literacy were unknown, the behaviour of pastoralists in the programme area indicated that if they were unable to read themselves, they would find someone who could read and explain the leaflet to them. Although it proved to be extremely difficult to collect regular reports from all CAHWs, those reports that were received gave an indication of the activities being carried out. Table 3 summarises treatments administered by a single CAHW in Raga, Erigavo district in a five-month period between May and September, 1993.

Table 3
Example of CAHW activities, Erigavo district, May to September 1993

<table>
<thead>
<tr>
<th>Drug</th>
<th>Disease</th>
<th>Number sheep/goat treatments</th>
<th>Number camel treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>total per month</td>
<td>total per month</td>
</tr>
<tr>
<td>Anthelmintic</td>
<td>helminthiasis (caal)</td>
<td>2746 549.2</td>
<td>32 6.4</td>
</tr>
<tr>
<td>Acaricide</td>
<td>tick infestation (shilin)</td>
<td>3280 656.0</td>
<td>77 15.4</td>
</tr>
<tr>
<td>Trypanocide</td>
<td>trypanosomiasis (gendhi)</td>
<td>na na</td>
<td>87 17.4</td>
</tr>
<tr>
<td>Oxytetracycline</td>
<td>miscellaneous infectious diseases</td>
<td>151 30.2</td>
<td>39 7.8</td>
</tr>
</tbody>
</table>

na = not applicable

5.2.3 Programme review, 1993: discussions with herders and traders

Six months into the AHP a security incident in Erigavo forced the temporary withdrawal of expatriate staff and prompted a review of the programme. At this time it became apparent that the programme had not been able to monitor the CAHWs effectively. The basic recording and accounting system set up by ActionAid did not run smoothly and written agreements between the programme and the district veterinary departments were not honoured. Although these agreements detailed the responsibility of the departments to collect monthly reports from the CAHWs and provide ActionAid with accounts, in practice they were meaningless because of the lack of accountability of the department staff. For example, when a veterinary assistant absconded with one month's supply of medicines, neither the NGO Committee or ActionAid was able to recover the loss because the individual concerned was
supported by his clan. Furthermore, the retention of drugs in the AHP stores provoked threats of security incidents against the programme. In this situation, the AHP had to either ignore the irregularities which occurred or withdraw from the area.

Hence, by December 1992 a number of important questions arose regarding the future of the project (Hadrill, 1992). For example,

- How effective was the CAHW system in terms of making a basic diagnostic and curative service available to herders?
- Was the AHP addressing the most important livestock diseases?
- Could herders afford to buy the medicines being offered by the CAHWs? How did herders value veterinary services?
- How sustainable was the AHP considering the relatively low cost recovery for veterinary medicines achieved by the present system? What were the alternatives, if any, to modern veterinary drugs?

In an attempt to answer the above questions an assessment was conducted in some of the main grazing areas of Sanaag. During the design of the assessment, programme staff were aware that up to that point in time they had been very reliant on the views of elders in the *quurti* and later, the NGO Committee. While information obtained from these sources had been essential in establishing the AHP it was felt that the views of more pastoralists should be sought and therefore, a way of accessing and defining groups of pastoralists was needed. In this respect, the *dia* paying groups were identified as a possible entry points and their traditional home areas were mapped out.

In each assessment area, participatory methods were used to collect information on social organisation, systems boundaries, seasonal livestock movements and natural resource management, and understand issues such as important livestock diseases, people’s access to veterinary services, their knowledge of the AHP and their willingness to pay for services. Secondary data collection included a review of literature on livestock diseases and more general pastoral development issues in northern Somalia/Somaliland. At this preparatory stage of the assessment it was noted that veterinary drugs had been sold in northern Somalia since the 1950s or before when colonial veterinary services began selling trypanocides in response to high demand from herders (Mares, 1954b). There were also more recent records of herders in Bay region, Somalia, buying veterinary drugs (Al-Najim, 1991). In addition to this information, it was evident that even in remote areas people were accustomed to paying for private services such as education and water. The traditional pastoral education system in Somali areas was based on payment of livestock to Koranic teachers and in some areas, water was purchased from privately owned birkads or other sources. Hence, the concept of payment for a service was not new in pastoral areas.

In addition to the participatory assessment with herders (Ahmed Aden and Catley, 1993a; 1993b), the AHP also commissioned a study on private trade in veterinary medicines in Sanaag and Somaliland and interviewed livestock traders and businessmen (Omer Edleh, 1993). The combined findings from the herder and trader assessments were as follows:

- The large demand for basic veterinary services in Sanaag was not met by the existing AHP. The number of CAHWs and the quantities of medicines supplied to each CAHW were insufficient.
When evaluating the cost-recovery system for veterinary medicines used by the AHP it was evident that the sale price of veterinary drugs was between 42% and 89% of the actual cost (including freight and insurance) depending on the item. However, despite these sale prices, which had been negotiated with the NGO Committee, fieldwork with herders indicated that they were willing to pay the full price of veterinary medicines. For example, the sale of 1 sheep to buy medicine to treat a sick camel was often stated as a fair price for the medicine. One herder explained that this was similar a local remedy which involved the slaughter of a goat to make broth for a sick camel.

For some areas visited, CAHW activities were localised around villages. In these areas, herders claimed to be unaware of the CAHWs' activities; representation of herders by urban-based elders was considered to be poor.

Other CAHWs were found to be working effectively and were much appreciated by their communities. Usually, these CAHWs kept their own animals and travelled on the range.

Those herders who did not have access to a CAHW produced clear and logical criteria for selecting someone for training. These criteria included honesty, ability to read and write, good livestock knowledge, well known and respected, strong and able to walk long distances and good tempered.

These findings indicated that the AHP should either move rapidly towards a full cost recovery system for veterinary medicines or aim to replace ActionAid with private traders as the main supplier of veterinary drugs. The final decision over which of these options to choose was heavily influenced by two factors.

First, the new district veterinary departments supported by the AHP were unable to manage themselves effectively and their staff were involved with the programme for personal gain only. Reporting and accountability were inadequate, and most of the money collected from the sale of veterinary drugs and intended for the reserve fund had disappeared. Although written agreements existed between the AHP and the veterinary departments, neither ActionAid nor the NGO Committee were able to recover the lost funds. Furthermore, as the AHP lacked capacity to manage rather than simply advise the district veterinary departments the involvement of these departments in the project seemed to be increasingly untenable. One of the departments was actually disbanded by the quurti in early 1994.

Second, no qualified Somali veterinarians were resident in Sanaag at the time of this work. Elsewhere in Somaliland, ICRC and CARE had organised workshops with local veterinarians and veterinary assistants to discuss the development of animal health services following the completion of the ICRC emergency programme. In particular, these meetings focused on the potential for 'privatisation' of veterinary services in Somaliland and the establishment of private veterinary practices. This approach was supported by the National Charter of the new Somaliland Government that advocated privatisation of services.

5.2.4 Support to private veterinary pharmacies

Considering the AHP's own assessments, the results of the ICRC/CARE workshops and the attitude of the Somaliland Government, the best option available to the AHP was to encourage the establishment of private outlets for veterinary medicines in Sanaag and link the CAHWs to these outlets. Between December 1993 and January 1994 the initial stages of the 'privatisation' plan for veterinary services in Sanaag were implemented. Individuals or groups who were interested in this aspect of the AHP had to
be supported by the NGO Committee and the following assistance was provided:

- The one-time sale of veterinary drugs by ActionAid to veterinary assistants/traders at cost price to act as a 'kick start'.
- Assistance with communication between traders and veterinary pharmaceutical suppliers overseas by use of facsimile and e-mail facilities at the ActionAid office.
- To provide information on the quality, quantity, and types of medicines required, and training in the correct storage and use of medicines.

By mid-1994, six veterinary pharmacies with 13 sub-agencies had opened in the region with assistance from the AHP (Hunter, 1994). Four of the pharmacy managers were ex-veterinary department employees, one was a CAHW who had also been selling drugs during the civil war and one was a veterinary undergraduate whose training had been interrupted by the war. In late 1994, a participatory review of the AHP included before-and-after measures of the uptake of services offered by CAHWs and veterinary pharmacies since the onset of the programme. This indicated very high uptake of the new, private services and reduced use of indigenous veterinary practices (Table 4).

Table 4
Summated scores of herders' treatment strategies ‘before’ and ‘after’ the ActionAid Animal Health Programme

<table>
<thead>
<tr>
<th>Location</th>
<th>Indigenous veterinary practice</th>
<th>Animal health service introduced by the programme</th>
<th>CAHWs</th>
<th>Private veterinary pharmacies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indigenous medicine</td>
<td>Religious healing</td>
<td>before/after</td>
<td>before/after</td>
</tr>
<tr>
<td>Yube</td>
<td>130/82</td>
<td>76/44</td>
<td>0/248</td>
<td>0/248</td>
</tr>
<tr>
<td>Jidali 1 (male informants)</td>
<td>123/82</td>
<td>83/47</td>
<td>0/233</td>
<td>0/233</td>
</tr>
<tr>
<td>Jidali 1 (female informants)</td>
<td>118/81</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Jidali 2</td>
<td>156/131</td>
<td>ns</td>
<td>65/175</td>
<td></td>
</tr>
</tbody>
</table>

Notes: The numbers in the table show the results of numerous scoring exercises which required informants in three areas (Yube, Jidali 1 and Jidali 2) to score treatment strategies for different diseases from 0 to 10 'before' and 'after' the AHP. The scores have been summated by the author for the sake of brevity and show trends rather than precise quantities. Readers are advised to consult the original ActionAid report (ActionAid, 1994) for more detailed information. ns = not scored.

5.2.5 Conclusions

When discussing community-based animal health in Sanaag region it should be noted that no effective national or local government existed in Somaliland from the onset of the AHP in 1992 until the time of writing. Local traditional institutions such as the quurti in Sanaag were not accustomed to working with NGOs and considerable time was invested in developing a good working relationship with the quurti and NGO Committee. The resources available to the AHP, both in terms of trained staff and materials were limited considering the size of the target area (cf. the NAHA system). Despite these difficulties, ActionAid has been able to work with community-based institutions to develop a basic
veterinary service involving small private pharmacies linked to CAHWs. Although this system has received minimal external technical support in the last three years, it demonstrates that as predicted by GTZ veterinarians in the 1980s, a combined private and community-based approach is feasible in remote Somali areas.

One of the problems predicted with the AHP was the lack of formal regulation of the importation and use of veterinary medicines and the absence of trained veterinarians in Sanaag. To some extent this concern was offset by the knowledge that news of medicines that were not effective or had been diluted by pharmacies before sale would travel quickly across the range. Also, herders were aware of the advantages of purchasing good quality products in sealed containers and they were suspicious of unlabelled products or broken packaging.

The 1993 assessment with herders and traders showed that both of these stakeholder groups supported 'privatisation' of clinical veterinary services. Even herders with relatively small herds of around 40 sheep and goats seemed ready to purchase medicines at higher prices than those proposed by the elders. In Sanaag, herders recognised the cost-benefit of curative treatment of livestock diseases and their main problem was one of availability of veterinary services rather than cost. The approach of the AHP was supported in discussions with Somali traders and the National Charter of the Somaliland government.

Due to the long-term presence of ActionAid-Somaliland in Sanaag, it is likely that their staff and community-level partners have much to contribute toward debate on the development of appropriate veterinary services in pastoral areas. In the last few years there have been few technical reports available from the programme although an assessment by a veterinarian was being prepared at the time of writing this review.

5.3 Community-based animal health in the Somali National Regional State, Ethiopia: Experiences of working with government

Background information on the Somali National Regional State (SNRS) in Ethiopia and the work of the British NGO Save the Children UK (SCF) is provided in section 4.2.2. Among NGOs, SCF has a distinctive approach that was characterised by working through government and support to the public sector, particularly in human health and education. This section summarises SCF’s experiences of developing community-based animal health systems with regional government in the SNRS since 1995.

The first point to note is that despite its limited organisational knowledge of veterinary services, SCF had been aware of the importance of animal health in Somali communities for many years. During the Ogaden crisis in 1991, SCF staff were repeatedly told by villagers, "If you can bring nothing else for us and our children, at least bring us medicines for our animals". At a time of drought and refugee influx, it was concluded that emergency provision of veterinary medicines, even for sale, was feasible (Holt and Lawrence, 1991). In participatory needs assessments conducted by SCF since 1991, livestock disease continued to be a major problem expressed by rural communities in the SNRS.

5.3.1 Project overview

SCF’s community-based animal health work in the SNRS was implemented in partnership with the South East Rangelands Project (SERP) within the Regional Bureau of the Ministry of Agriculture. SERP was a large, integrated rural development project funded by the African Development Bank and Ethiopian government. Within SERP, an Animal Health and Production Section was responsible for delivering veterinary services in much of the SNRS and for the purposes of this review, it can be regarded as the government veterinary service in the region at that time. Two important features of the
Animal Health and Production Section were the employment of a large number of Somali veterinarians, some of whom were refugees from Somalia, and a dependency on a revolving fund system for the supply of veterinary drugs to the project. The revolving fund was based on Ethiopian government procurement and accounting procedures.

The SCF/SERP community-based animal health project aimed to expose government veterinarians to alternative approaches to service delivery and test a small-scale CAHW system. At the start of the project, it was known that veterinary drug supply was likely to be a major determinant of project success and there were concerns that the revolving fund system within SERP would not be able to provide drugs to CAHWs on reliable basis. Consequently, SCF also provided technical advice to SERP on the management of the revolving fund and contributed a substantial supply of veterinary drugs.

Initially, the SCF/SERP project focussed on developing SERP’s capacity to train and manage a network of CAHWs. SERP veterinarians were exposed to CAHW projects in northern Kenya via study tours and workshops organised with NGOs (primarily ITDG, Oxfam and FARM) and they were trained in participatory rural appraisal and new approaches to project design. Materials were developed for CAHWs training courses and two SERP veterinarians received training in participative training techniques at a specialist centre in Kenya. The CAHW training was designed to focus on problems such as worms, ticks and trypanosomiasis. These aspects of the project were funded and managed by SCF and progressed smoothly.

Figure 7
Fieldwork during a PRA training course for veterinary staff in the Somali region of Ethiopia

Figure 8
Use of participatory appraisal methods by veterinarians in the Somali region of Ethiopia - local prioritisation of animal health problems using livestock disease scoring.
The initial training inputs in the project included discussion on appropriate methods for selecting CAHWs and through visits to other projects, veterinary staff were aware of the need for careful selection of CAHWs via community-based forums. However, this approach received very little support from senior management within SERP and therefore resources such as transport and per diems for veterinary staff were not forthcoming. In part, this problem was due to regular staff changes at the senior management level in both SERP generally and the Animal Health and Production Section, amounting to five changes over an 18 month period. Hence, although project veterinarians were committed to testing a community-based approach, this enthusiasm was not shared by their superiors.

These problems were overcome by using SCF resources to transport government veterinary staff to the field but by this stage, there was an overriding need to select CAHWs as quickly as possible due to donor pressure to deliver quantifiable outputs. Consequently, the selection process involved a variety of local government staff, elders or even the veterinarians themselves according to location. Very little effort was made to involve indigenous institutions or encourage CAHW selection through some form of local consensus.

In 1996 three CAHW training courses were organised in different locations of the SNRS. The training methodology was similar to that used by other projects and comprised practical demonstration and learning combined with participative techniques such as brainstorming and role plays (Catley, 1995). Group sizes varied from 4 trainees using a single trainer to 25 trainees using 2 trainers.

Training materials included illustrated handouts in the Somali language and cloth flip charts. Following training, CAHWs were equipped with basic equipment such as syringes, needles, Burdizzo castrator, sterilising pan, notebook and pens.

Figure 9
CAHW training in Fik, Somali National Regional State, Ethiopia - use of brainstorming as a training tool.
5.3.2 The problem of veterinary drug supply and monitoring

In common with many other projects, incentives for CAHWs were designed as a surcharge on the sale of veterinary drugs. However, as early as 1995 SCF recognised that the key constraint facing the government veterinary service in the region was the dramatic failure of the revolving fund coupled with limited options for developing the system on a sustainable basis. Cost recovery within the system was running at around 20% or less and in meetings with SERP project management the following problems were acknowledged:

- the absence of a clear strategy for setting prices for veterinary medicines;
- bureaucratic procurement procedures;
- devaluation of local currency;
- limited capacity within SERP to manage the revolving fund;
- failure to develop a long-term perspective;
- limited understanding of how livestock owners valued the service;
- users were not well-informed about the correct prices of the drugs.

In addition, the low salaries of SERP project staff, a thriving local black market in veterinary drugs and the considerable distances between SERP's central office and rural veterinary clinics were all factors which encouraged abuse of the revolving fund system (Save the Children, 1996). The poor drug supply to CAHWs created frustration as CAHWs were constantly refused access to drugs or drugs were not available.

By December 1996 and according to reports received from the CAHWs it was estimated that only 27 out of the 45 CAHWs trained were still working. Crucially however, a small number of CAHWs were able to obtain drugs through unofficial relationships with government veterinary staff (who had their own ‘private’ sources) and records from these CAHWs showed that they were very active in treating livestock. For example, one CAHW in an area called Arabi treated 2618 sheep and goats, and 92 camels in one month, and sold drugs to the value of Eth.birr 1344.58 (USD 207.00) during this period (Save the Children, 1996). In effect, these links between government veterinarians and CAHWs were an indication that a fully private system might be feasible if the drug supply could be liberalised. Veterinary staff, although employed by the government, were already using CAHWs to distribute drugs. Other CAHWs were travelling long distances by public transport to buy drugs. In some cases these journeys took them outside the SNRS to search for private pharmacies in major towns such as Harar and Dire Dawa. This was seen as another indication that some of the more dynamic CAHWs realised that a market for their services existed and they were willing to invest time and money to access veterinary drugs.

5.3.3 The use of stakeholder analysis

The experiences of the SCF/SERP project led to the development of the Veterinary Services Support Project (VSSP) which aimed to link CAHWs to private veterinary clinics and pharmacies (see section 5.2.2). The VSSP was in progress at the time of writing but in terms of the scope of this review, some of the early project activities are of interest because they involved joint analysis of animal health services by veterinary professionals, livestock keepers, traders and other stakeholders. This stakeholder analysis involved two workshops with livestock owners, community elders, religious leaders, women, traditional livestock healers, private veterinary drug traders, livestock traders and government veterinary personnel. The workshops were opened in a traditional manner using a well-known Somali poet to introduce the theme of the workshop and describe the various options for treating sick livestock that were available at that time. Workshop participants were divided into groups to discuss topics such as:
The main benefits and diseases of livestock
The role of women in animal health care and options for treating sick livestock
The role of traditional medicine versus modern medicine for treating livestock diseases
Livestock disease, veterinary services and livestock trade as perceived by livestock traders
Strengths and weaknesses of the existing veterinary services
Ability and willingness to pay for veterinary services
Opportunities for improvement and risks

During the discussions, participatory appraisal tools such as proportional piling, ranking and scoring were used to identify and prioritise issues, problems and solutions. For example, ranking was used to understand how different stakeholder groups were treating their animals (Box 6).

Representatives from each stakeholder group then presented the findings of their discussion to the rest of the workshop participants and the whole workshop voted on key issues and ideas for improving veterinary services. When discussing the role of external players such as aid agencies in the development of services it was evident that although veterinary privatisation programmes have tended to offer credit to Somali veterinarians, there were well-established traditional credit systems in Somali society which were considered to be effective. These systems are outlined in Figure 10.

Some of the other interesting findings arising from this process were:

There were already private sources of veterinary drugs in the region but these outlets were unlicenced and restricted to urban centres. Drugs in these outlets probably originated from two main sources - suppliers in Somalia and northern Somalia/Somaliland, and government veterinary stores.

In pastoral areas, although people used traditional practices they recognised that modern drugs were more effective for some diseases. They were ready to pay for these drugs and accepted the rational for CAHWs to act as a supplier of drugs and information.

Government policy and employment regulations were perceived to be important constraints to private veterinary activities.

Figure 10
Sources of credit for Somali veterinarians in Jijiga (left) and Fik (right) zones, and their relative importance (source: Save the Children, 1997)
Notes for Figure 10:
Some features of the traditional loan system involving relatives and friends were:
- according to Islamic law, all loans were interest-free;
- the loan recipient usually required guarantors such as respected elders or wealthy business people.
- in the event of failure to repay the loan a committee of elders would be formed to investigate the problem. In some cases, the repayment period would be extended and in others the relatives or guarantors of the debtor would repay the loan. Sometimes the debtor would be taken to court. In the case of non-repayment, the guarantors will repay the cost in around 90% of cases.
- The size of the loan depended on the wealth and willingness of the creditor, though approximate sums of 5,000 to 10,000 birr per creditor were mentioned (Eth.birr 6.2 = 1 USD). A borrower might approach several creditors simultaneously, thereby increasing the size of the loan by up to five times or more.

Table 5
Understanding how different stakeholders treat sick livestock

<table>
<thead>
<tr>
<th>Options for treating livestock</th>
<th>Ranking of options by stakeholder groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
</tr>
<tr>
<td></td>
<td>Zone 1</td>
</tr>
<tr>
<td>Koranic prayers</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Traditional medicine</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Private drug sellers</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Government service</td>
<td>nm</td>
</tr>
</tbody>
</table>

(source: Save the Children, 1997)

Notes:
The table shows how different stakeholder groups were treating their animals. Each group was asked to explain what they did when their animals became sick. These options were than ranked in order of importance.
- nm = not mentioned or ranked by informants
- Traditional methods include plant-based medicines, cautery, and soups/broths

The stakeholder analysis approach was useful because each stakeholder group was able to voice their opinions and needs. More powerful stakeholders such as government veterinarians had to discuss the weaknesses of the existing veterinary service with different end-users and work with them to identify a way forward. The stakeholder approach also helped to ensure that less powerful groups were not misrepresented. The results of the stakeholder workshop were combined with a technical assessment of veterinary services in the region in order to advice the regional government on appropriate policy.
This resulted in a government sanctioned policy statement supporting the development of private clinical veterinary services.

5.3.4 Conclusions

SCF’s experiences showed how weak government partners could undermine the development of community-based animal health services. Although Somali veterinary professionals became committed to the CAHW approach, inappropriate government control of veterinary drugs meant that the sustainability of CAHWs depended on their personal ties to veterinary staff. To a certain extent, the project was also an example of how substantial material inputs (veterinary drugs) by an aid agency can be misused by senior government staff when the government structure itself suffers from poor accountability.

As the VSSP evolved, Somali veterinarians received training in small business proposal writing and during the formulation of business plans many of them included CAHWs in the business. This was an indication that some positive lessons had been learnt from their experiences with CAHWs and they realised the potential for CAHWs to distribute medicines to remote areas.

The stakeholder analysis approach proved to be a useful melting pot for opinions and ideas from different service providers and users. In the Somali context, it was particularly useful to place veterinarians, pastoralists and other key stakeholders face to face and enable them to identify common ground for the improvement of animal health services.

5.4 The Oxfam UK/I Wajir Pastoralist Development Project, Kenya: Evidence of economic impact in a CAHW system

Oxfam UK/Ireland has been working in Wajir District, north east Kenya since 1994. During the first ten years their work was based on emergency and relief inputs in response to major droughts in 1984 and 1991-92. In 1992, Oxfam developed the Wajir Pastoralist Development Project (WPDP) as part of a nine year development strategy and the first phase of this project began in 1994. According to the findings of participatory assessments and planning, the WPDP included improvement of animal health, human health and water services through local institutional development. The project was funded by the Department for International Development (UK) and Comic Relief (Oxfam (UK/I). For the purpose of this review, information on Oxfam UK/I’s work in northern Kenya was obtained from a mid-term assessment report (Oxfam (UK/I) Kenya, 1996) and an economic impact assessment (Holden 1997a) only. Therefore, the notes that follow focus on the impact of a combined community-based animal and human health system which developed over a three year period from 1994 to 1997. The community-level workers involved in this system were called daryelles.

The focus of Oxfam UK/I’s work in Wajir was the development of pastoral associations (PAs) which worked on behalf of communities in the project area. The pastoral associations were supported by a pastoral steering committee which included NGO staff and district veterinary staff. For the delivery of basic animal health care, an important role of the PA was to manage veterinary drug supply to daryelles via revolving fund systems. The main source of drugs for the PAs appears to have been the District Veterinary Officer. Rather than discuss the pros and cons of this arrangement and the daryelles’ dependency on drugs channelled through a government employee and the PAs, it was evident that livestock owners were using the daryelles and buying veterinary drugs. An assessment of the daryelle system produced a number of interesting findings:

10 The revolving fund approach via local associations was also being used by the Arid Lands Resource Management Project (ALRMP) in Wajir. The associations in the ALRMP were called user associations and the project was implemented by the Government of Kenya with World Bank funding.
Of the 87 daryelles who were originally trained, 60 were still working in 1997. Between them these workers treated approximately 35,000 animals per year in the project area. “The improvement in drug supply and information on their correct use was commonly cited by pastoralists as an important factor explaining improvements in the quality of their life and their better capacity to withstand the future effects of drought” (Holden, 1997a).

Comparison of project and non-project areas indicated lower livestock mortality in project sites, as detailed in Table 6. This reduced loss of livestock was valued at KSh. 22,853 (approximately USD350) for each household in the project area and this sum was sufficient to buy grain to feed 2 adults and 4 children for 250 days. This finding was used to support pastoralists’ claims that due the project had improved their wellbeing.

For CAHW systems in Africa, the impact assessment summarised above is a rare example of a systematic study of benefits offered by CAHWs in pastoral areas. Although the study was conducted in a post-drought situation and livestock mortalities were higher than in ‘normal’ years, the findings indicate that CAHWs can deliver a useful service to Somali herding communities.

Table 6
Herd mortality rates reported by 200 households in project and non project-sites during the previous year, Wajir Pastoral Development Project

<table>
<thead>
<tr>
<th></th>
<th>Project sites</th>
<th>Non-project sites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mortality rate (%)</td>
<td>Annual loss (number of animals)</td>
</tr>
<tr>
<td>Camels</td>
<td>20</td>
<td>21,520</td>
</tr>
<tr>
<td>Cattle</td>
<td>17</td>
<td>10,836</td>
</tr>
<tr>
<td>Sheep and goats</td>
<td>18</td>
<td>3,571</td>
</tr>
<tr>
<td>Total</td>
<td>35,927</td>
<td></td>
</tr>
</tbody>
</table>


Note:
The high mortality in both project and non-project sites was related to severe drought in the previous year.

6. DISCUSSION

This review has attempted to outline some of the main contextual issues affecting the development of community-based systems in Somalia and by reference to actual or recent experiences with CAHWs, summarises some of the main lessons learned.

Regarding existing conditions which favour the development of community-based animal health services in Somalia/Somaliland, the review indicates that the pastoral economy (micro- and macro-levels, section 2.1), types of social organisation (section 2.2) and presence of well-developed indigenous technical knowledge (section 4.1) are all factors which are amenable to the community-based approach. Somali communities have been managing and sustaining their own traditional
services for many years and the continuing presence of these services shows that effective, community-based structures are already functioning (section 3.0). There are now many examples of the use of basic level workers to deliver services to remote pastoral communities in Somalia, including experiences from primary human health and animal health systems (sections 3.0 and 5.0). This approach appears to be highly appropriate in areas with large systems boundaries, poor infrastructure and communications, and relatively small but mobile human populations. It has also been argued that in the absence of government in Somalia, there seems to be little option for long-term development other than to support participatory, community-based approaches (Ford et al., 1994).

Looking more closely at primary animal health systems, basic level workers have been a feature of veterinary services in Somali areas since colonial times. The overriding trend since that period has been the development of systems that shift responsibility for sustaining and monitoring this type of worker from the government to the community. Whereas the vetscouts in the days of the Somaliland Protectorate were government salaried (Peck, 1962), GTZ's Nomadic Animal Health Auxiliaries were private operators albeit, dependent on a government-managed drug supply system (Baumann, 1990). More recently, the CAHWs in the Somali region of Ethiopia were also relying on drugs that often originated from government sources but due to the low performance and sustainability of this approach, veterinarians were planning to link CAHWs to private pharmacies (Save the Children, 1996; 1997). The trend towards community-based and private animal health systems in Somali areas is most evident in projects in Somaliland (ActionAid-Somaliland, 1994) and northern Kenya (Holden, 1997a). The ActionAid project in Sanaag Region was able to begin linking CAHWs to private veterinary pharmacies in early 1994 and this system continues to operate with minimal external assistance. In Wajir, CAHWs are associated with membership organisations and function as private providers of animal and human health care. In most of these projects, there is evidence to show that CAHWs not only treat large numbers of livestock but they can also act as effective reporters of disease outbreaks.

When these experiences are viewed in the context of veterinary service reform in Africa generally and the lack of effective government in Somalia/Somaliland, it is evident that the provision of primary animal health care by the public sector in Somalia is not a viable option. In those countries neighbouring Somalia/Somaliland, veterinary privatisation is a reality and the public sector is gradually being re-orientated towards a focus on policy and legislative functions, and control of diseases of major economic importance.

### 6.1 Willingness and ability to pay

As part of the ongoing debate on veterinary privatisation in pastoral areas, a number of key issues are relevant to the Somali situation. First, there has been much discussion on the willingness of pastoralists to pay for basic veterinary services. The lesson from Somali areas is that herders have been paying for veterinary medicines for years and when approached in the correct manner, have few difficulties in relating the cost of treatment to benefits gained. In areas where services are not available, there are numerous accounts of herders' willingness to pay for veterinary drugs (Box 7).

Like most pastoralists, and indeed livestock owners everywhere, Somalis will try to negotiate a good deal and veterinarians should not be misled by calls for free or subsidised drugs. An important finding of this review was that in Sanaag Region, private veterinary pharmacies linked to CAHWs developed within a year of the cessation of a subsidised drug supply system via an aid agency.

Part of the debate on payment for services has been concern that only wealthier herders buy veterinary drugs. To the author's knowledge, there have been no reports of differential use of CAHWs in Somali areas according to wealth. However, it is likely that when veterinary drugs are in short supply,
CAHWs will face pressure from elders and more powerful community members to treat their animals first. This issue was discussed at some length in stakeholder workshops on animal health in the Somali region of Ethiopia and the workshop participants made reference to local definitions of wealth and poverty (Table 7) and traditional systems for supporting poorer herders.

Box 7
Will Somali herders pay for veterinary medicines?

“When the disease called dhukaan (trypanosomiasis) is recognised the Somali now wants treatment with Antrypol or Antrycide and he will drive his animal long distances and pay good money to get it” (Mares, 1954b).

“Treatment for endo- and ecto-parasites was given without cost from 1970 to 1976 for demonstration purposes. After 1976 it became necessary to charge pastoralists for such treatments in order to cover the operational costs of drug importation. Informal discussions with the local people of Bay Region in 1994 showed that the livestock owners were in fact willing to pay for the drugs they needed, but that the drugs were frequently unavailable from the local veterinary services” (Al-Najim, 1991).

“The tremendous demand for services helped Nomadic Animal Health Auxiliaries to generate income and brought them into contact with large numbers of herds. Livestock owners were willing to pay in kind or cash for the services” (Zessin et al, 1993).

“Establishing veterinary pharmacies in livestock markets would provide drugs commercially and could also give technical advice. Nomads did not demand free hand-outs but wanted the availability of supplies and services” (Nathanail and Hussein S.Nur, 1993).

“In Sanaag Region in 1993, the sale of one sheep to buy medicine to treat a sick camel was often cited as a fair price for the medicine. One herder explained that this was equivalent to a local remedy which involved the slaughter of a goat to make a broth for a sick camel. Even herders with relatively small herds of around 40 sheep and goats seemed ready to purchase medicines at much higher prices than those proposed by the elders when the project began” (Catley, 1996).

“In Arabi and Kebribeyeh meetings were held with community elders in order to discuss the activities of the paravets, problems faced by the paravets and opportunities for improving the system. In both sites the paravets were thought to be working well but were constrained by limited supplies of drugs and a large coverage area. Although drugs were sold with a mark-up on top of the cost price, there were no complaints about the cost of the drugs” (Save the Children, 1997).
Table 7
Some Somali definitions of wealth and poverty

<table>
<thead>
<tr>
<th>Wealth category</th>
<th>Livestock holdings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sheep and goats</td>
</tr>
<tr>
<td>Rich (malqabeen, a person who can donate livestock)</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Medium (danyar, a person who is self-sufficient)</td>
<td>60-90</td>
</tr>
<tr>
<td>Low (sabool, a needy person)</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Lowest (barlaawe, a person who asks others for help)</td>
<td>&lt;10</td>
</tr>
</tbody>
</table>

(source: Save the Children, 1997).

When discussing the lowest wealth group barlaawe, the following ‘fair’ prices for medicines were suggested: Eth.birr 5-10 to treat a camel; Eth.birr 5 to treat a cow; Eth.birr 1 to treat a sheep or goat (exchange rate: Eth.birr 6.5 to 1 USD). The workshop also revealed some traditional systems that were used to assist less wealthy people, such as alms-giving, loans and gifts of livestock and commodities between relatives. It was suggested that these systems would also be used to obtain drugs and that the relative benefit of treating sick livestock increased as livestock holdings decreased. Regardless of numbers of animal owned, herders were ready to buy veterinary drugs and the value or fair price of drugs for specific diseases could be calculated.

This information supports earlier descriptions of wealth groups among Somali pastoralists (Haroon Yusuf, 1992) and indicates that the social support mechanisms outlined in this review (section 3.0) would be used to assist poorer herders to access a service, should it become available. In addition to this information, within Somali pastoral society clan wealth is partly determined by livestock holdings and therefore there are clan-based reasons for ensuring that livestock owned by clan members are maintained in good health. Also, one of the lowest wealth definitions in Somali areas is cayd - a person who has lost all their livestock and lives as a destitute herder in a town. Consequently, even those herders with relatively few animals are not considered to be the ‘poorest of the poor’.

6.2 The behaviour of animal health care seekers

Within much of the literature on primary animal health services in pastoral areas there is a tendency to regard livestock owners within a particular community as homogenous mass who all decide to use one type of service in preference to another. In reality, livestock owners make choices and as individuals, select whether to use traditional methods, seek modern drugs or advice, or even do nothing at all when animals become sick. The preferred method is also influenced by access to and cost of the different options available, and previous experience. In addition, different methods may be tried one after the other until a result is achieved. When all these factors are considered in relation to mixed herds comprising species of different values, uses and ownership, and a range of diseases affecting single or multiple species, it is evident that the process of selecting one animal health care option over another is far from simple.

In common with many pastoral communities, Somali herders tend to have a great deal of confidence in their own ability to recognise different livestock diseases. Consequently, it seems likely that within community-based systems in Somalia, the CAHW will be used mainly as a source of veterinary drugs and advice on the correct use of the drugs. In this situation, it might be argued that herders could go
directly to veterinary pharmacies and perhaps obtain the drugs at a lower price i.e. without the CAHW surcharge. The first point to note when discussing this issue is that private veterinary pharmacies and drug shops already exist in urban centres in Somalia/Somaliland and yet, it seems that few pastoralists from remote areas are using these outlets to acquire veterinary drugs. There are at least four possible reasons for this situation:

Herders in remote areas are not aware that veterinary drugs are available in the towns. This seems unlikely considering the indigenous information networks that exist in Somali areas.

Herders are unfamiliar with modern veterinary services and are unaware that drugs are effective. This also seems unlikely considering the presence of veterinary services in Somali areas, albeit of limited coverage, for more than eighty years and herders' access to news from the outside world via radio and relatives living overseas.

The distance to the pharmacy/store is too great and does not warrant a long journey; this problem is compounded if drug supplies in the pharmacy/store are unreliable and there is a risk that the required medicine might not be available.

Herders do not trust urban-based traders or veterinarians; they prefer to buy drugs from someone they know personally and who has proven knowledge of animal health matters.

In relation to this last point, when describing human health care seeking in Somalia, Helander (1990) noted that personal relations between service users and providers was an essential element of primary health services.

“Few people are prepared to visit a herbalist they had no previous knowledge of, nor would they consult with a sheikh unless they regarded him as “their” particular sheikh. The emphasis put on personal knowledge of medical practitioners is understandable from the perspective of how social relations work in every-day life.

Few people among the Hubeer11 enter into any kind of exchange or communication with people they do not know. This is one of the reasons why ambulatory health services will not be the solution to the Somali nomad’s health care. Strangers who drop down for a few days in the grazing lands will not appear particularly approachable, unless they are preceded by favourable rumours” (Helander, 1990).

In animal health, the attitude of Somali pastoralists towards town-dwelling veterinarians and drug merchants was reflected in the work of the poet Mohamud Tukaale Osman. When describing a herder who is considering his options for treating a sick camel, Tukaale wrote,

What can the vet doctor do?
My place is remote and the doctor is townfolk,
Who has never even crossed the valley from his home,
I'm sure he'll become tired. Will I carry him on my shoulder?
The doctor is pampered townfolk, he never rides the camel,
And he knows not the rural area, nor distinguishes a lion from a bull!
Supposes he assumes the camel a beast? Or gets confused, yelping "Help"!

And the merchant, he loves money and strives to make profit,

11 A sub-clan of the Rahanweyn, southern Somalia.
An opportunistic foe, he shows no mercy for the rural people,
And of the modern drugs, I know not the expiry dates,
how to mix the injection, or even read the label.
I am completely ignorant of it!
For the powdered medicine to be mixed with the water,
The merchant may defraud me, and wrongly wrap for me in a paper,
The poison for hyenas and beasts.
If I pour this into the water, and the animals drink,
They may swell and stagger,
And all will be killed.
This is like suicide, I will be ruined and poor.
Leave this idea, don’t mention it again

(source: Save the Children, 1997)

One important advantage of community-based animal health systems is an element of local ownership and the use of CAHWs who people know and respect. Although not all livestock keepers in a particular community will use the CAHW at all times for all problems, the presence of the CAHW provides people with an extra option for animal health care and overcomes constraints such as distance to a service and mistrust of the service provider. Herders in Sanaag Region recognised the rationale for a single worker, selected by and responsible to them, to travel to a pharmacy on their behalf. In some cases, the CAHW would walk for three days in each direction in order to collect drugs and submit a report on his activities (Catley, 1994). Herders realised that the alternative to this system was for each of them to travel a vast distance every time their animals needed treatment and traditional medicine had not been effective.

Rather than discuss at length the whole range of constraints and solutions for improved animal health care, it can be noted that the participatory approach allows communities to identify and analyse options for themselves. Pastoralists can decide which type of service best suits their needs and in community-based systems, they have a major stake in influencing the design of a service and sustaining it. When combined with stakeholder analysis, all key players in a system can agree to develop services in such a manner that each benefits from the new system.

6.3 Misuse of drugs, quality control and community-level influences

Another important issue in CAHW systems is quality control and concerns that CAHWs might sell adulterated drugs, underdose, or encourage over-use of drugs. It has been argued therefore, that CAHWs should only operate where they can be supervised by veterinarians. While this level of supervision is desirable in an ideal world, many CAHW systems have been implemented with very little monitoring by public or private sector veterinary professionals.

When CAHW systems involve a high level of community participation, the CAHW is responsible first and foremost to the community. The latter usually select someone for training who they know well and respect, and the CAHWs are dependent on the community to use their services and provide an income. In this system, some fundamental rules apply. Pastoralists are usually very pragmatic and use a service if it has value and discard it if it fails to provide benefits. While many veterinarians still consider nomadic herders to be ignorant in animal health matters, there is a substantial literature on indigenous veterinary knowledge to show that pastoralists are very capable of monitoring the health of their animals. Medicines that fail to work are no longer used and failed treatments by CAHWs soon become a topic of discussion within communities. There are examples of herdsmen in the Somali region of Ethiopia demanding oxytetracycline which was manufactured in Europe rather than in other countries (Catley et al., 1997) and in the Ogaden, elders were resorting to traditional methods of tick control after realising that acaricide procured via the black market was not always effective.
(Abdullahi Hirad, 1994).

Once drugs are known to be useful, pastoralists also seem to make logical decisions regarding the best time to use drugs. Baumann (1993) noted how herders developed their own strategic deworming methods and Löh (1997) described the use of veterinary medicines after the rains and in response to poor performance of livestock as ‘remarkably rational’. Consequently, there is evidence to indicate that either alone or with advice from CAHWs, pastoralists can make rational decisions about the efficacy and use of veterinary drugs.

In common with many NGO projects, the PARC-VAC methodology for establishing CAHW systems includes post-training community dialogue sessions and refresher training for CAHWs. Both these activities are important for checking that the CAHWs are working properly. The post-training dialogue enables initial problems to be resolved and the refresher training is an opportunity to reinforce earlier learning on the correct use of drugs and provide information on new products which have appeared on the market. Regarding the need for public sector recognition and supervision of community-based animal health systems to ensure quality of service, even in those countries with well-established government veterinary services there is limited capacity to monitor CAHWs in pastoral areas. To the author's knowledge, eastern African countries have yet to develop procedures for the systematic documentation and collation of reports that detail problems with CAHW projects.

6.4 Experience and attitudes among veterinary personnel

During the last ten years or so veterinary professionals in much of eastern Africa have been exposed to veterinary service reform programmes implemented in partnership with government. Very gradually, attitudes towards private services and community-based approaches in countries such as Kenya, Tanzania, Sudan, Uganda and Ethiopia have changed and although much work remains to be done, at least these issues are being discussed within official bodies and private services are developing with government approval. External agencies are able to work with professional associations, government departments and private operators who have official recognition and in general, veterinarians are aware of the policy changes that are being considered.

Just before the civil war in Somalia it is likely that veterinarians were in a similar position to those in neighbouring countries. However, the absence of government and civil disorder has created a highly fragmented veterinary profession with no official representation or methods of certification and self-regulation. In this situation a number of self-motivated veterinarians tried to establish private businesses and those who succeeded probably possessed an entrepreneurial spirit and were able to function in Somalia’s political, clan-based and insecure environment. Other veterinarians are known to be unemployed and it is likely that within this group there are individuals who still crave for a government salary and the resurrection of the public sector in Somalia. Although veterinarians have been exposed to veterinary privatisation programmes, there have been relatively few initiatives to introduce community-based approaches into the privatisation process. NGO reports indicate that livestock owners have little confidence in veterinarians whose professional experience does not include working directly with livestock owners or their animals. Other Somali veterinarians have sought employment in Ethiopia, Kenya and the Gulf States or are living in countries such as the United Kingdom, Italy, Scandinavia, Canada and the United States of America.

In summary, knowledge of participatory community-based animal health services among Somali veterinarians is probably limited to a small number of people who have worked with NGOs such as

12 A third and important group of ‘veterinarians’ are people who have no veterinary qualification or in the absence of regulated certification, have promoted themselves from vaccinators to veterinary assistants to veterinarians. Inevitably, qualification documents have been lost.
Oxfam UK/Ireland and ActionAid. These professionals are likely to be a useful source of advice for PARC-VAC. However, a key constraint facing the development of CAHW systems in Somalia is likely to be the attitude of Somali and expatriate veterinarians who have no practical experience of the approach and believe that CAHWs will undermine their own economic and professional status. While critics of CAHW systems identify problems such as quality control and financial sustainability, these issues have not been studied or documented in a systematic manner. Consequently, much of the debate concerning the non-viability of community-based approaches to animal health care is characterised by hearsay and technocracy. This review presents information from a number of veterinary projects in Somali areas that shows that CAHWs are already operating successfully in some areas and that these projects are demonstrating social and economic impact. In view of this evidence, experiences from other pastoral areas of the Horn of Africa and OAU/IBAR’s growing institutional knowledge of community participation, it is evident that investments in CAHW systems are warranted. Successful alternative models to the community-based approach to veterinary service delivery in pastoral areas are notable by their absence.

6.5 The basic privatised and community-based system

A basic system for linking private veterinary pharmacies to CAHWs is shown in Figure 11. Some of the key aspects of the system are that the veterinary pharmacy is managed by a veterinarian(s) who provides the appropriate technical input and advice to the pharmacy users and CAHWs. In the vicinity of the pharmacy, clients include livestock traders and those livestock owners who are within travelling distance. More remote livestock owners access veterinary medicines and advice on the correct use of the medicines via CAHWs who have been selected by the communities in question. During the initial stages of setting up this type of system it is usually beneficial for the veterinarian to be involved in the community dialogue, the training of CAHWs and perhaps the supply of the start-up kit of drugs and equipment to the CAHW. Hence, both the community of livestock keepers and the private veterinarian begin to develop a working relationship. All these processes can be facilitated by external agencies such as PARC-VAC or NGOs.

This system should be viewed as a first step in improving the delivery of a basic clinical veterinary service to more remote communities. Sustainability is dependent on sufficient numbers of livestock keepers using the CAHWs and a reliable supply of good quality drugs to the CAHWs from the pharmacies. To a large extent, incentives for CAHWs can be defined by the communities and veterinarians involved, and other than ensuring that incentives are a feature of the system they need not be a concern of the project. As explained in section 6.2, not all livestock keepers will choose to use the CAHWs but the aim of the system is to improve choice and accessibility of service rather generally than provide a panacea service to satisfy all potential users at all times.
7. RECOMMENDATIONS FOR IMPLEMENTATION OF COMMUNITY-BASED ANIMAL HEALTH SYSTEMS IN SOMALIA

The PARC-VAC project within OAU/IBAR is considering if and how to implement community-based animal health projects in Somalia. PARC-VAC’s recent experience includes support to CAHW systems in pastoral areas of southern Sudan, northern Kenya and north-east Uganda and typically, the project works through local partners such as NGOs, government veterinary staff or private veterinarians. This approach allows PARC-VAC to utilise a relatively small team of in-house staff who offer technical support to implementing partners in the field. When PARC-VAC implements directly, it tends to use local veterinarians with long-term experience of both the communities in the project area and community-based approaches.

In Somalia a number of conditions favouring the development of community-based animal health systems have been summarised above. In particular, Somali pastoralists prioritise animal health and will pay for veterinary medicines when these products are available. Somali communities can organise themselves very effectively and tend to use democratic decision-making forums to solve problems or respond to development opportunities. The concept of basic-level workers is not new in many areas and there is useful ongoing experience to draw on in the form of NGO projects in Somaliland/northern Somalia and northern Kenya. In addition, the EU veterinary programme in Somalia has raised awareness of privatisation among veterinarians and promoted the development of private veterinary pharmacies and clinics. Consequently, there seems to be an opportunity to link
private practitioners to CAHWs in order to expand basic clinical services to rural areas and improve the financial viability of the private pharmacies. Such an initiative could utilise PARC-VAC experience and build-on previous EU investments.

In terms of actual implementation of projects in Somalia, PARC-VAC will need to consider the following points:

**Identification of local partners.**
In the author's view, the most useful local partners for the implementation of community-based animal health systems in Somalia are:
- private veterinarians and associated traders who have already taken the initiative to establish associations, pharmacies or clinics, and who might view CAHWs as a mechanism for expanding their businesses into pastoral areas. Somali veterinarians in Ethiopia realised this potential during stakeholder workshops.
- indigenous or international NGOs with long-term experience of working in Somali areas and institutional commitment to participatory, community-based approaches. The former have the benefit of financial sustainability while the latter are better able to work with communities to design appropriate services.

**Inclusion of key stakeholders**
In addition to working with livestock keepers and veterinarians, PARC-VAC will also need to ensure that stakeholders such as influential Somali traders, elders and military leaders are consulted when establishing projects. In some cases, a business person who is already supplying drugs to veterinarians might be willing to invest in CAHW systems if PARC-VAC can provide technical support. Methods such as stakeholder analysis that bring different interest groups together might be usefully applied in Somalia. Exclusion of key stakeholders will increase the risk of security incidents aimed at the project.

**Experience of Somali veterinarians in private and community-based animal health systems.**
There are probably few Somali veterinarians who have experience in community-based approaches and those that do possess relevant skills are likely to be employed by NGOs already. Therefore, PARC-VAC will need to invest in training in participatory methods and on-the-job support to professionals working in the field.

**Sharing resource inputs**
As a general rule, PARC-VAC should limit its inputs to training, technical advice, monitoring, coordination, and possibly vaccine supply. Material inputs for clinical animal health services such as equipment and drugs should be avoided as ideally, these should be provided by Somali veterinarians and traders in partnership with community-level forums. At no time should PARC-VAC consider subsidising veterinary drugs or using free drugs for demonstration purposes.

**Roles of CAHWs in vaccination**
In most of the CAHW projects discussed in the review, CAHWs were not used to vaccinate livestock. However, given the successful use of CAHWs in rinderpest control in other areas, particularly southern Sudan, there seems to be no reason why Somali CAHWs could not handle heat-stable rinderpest vaccine under similar arrangements to those in other countries.

**Filling an information gap**
Radio is a very popular form of communication in Somalia. Human health messages have been disseminated by radio in the past and there is considerable scope to use radio to channel animal health messages to pastoral communities in remote areas. Messages could be specific
information (e.g. how to read expiry dates on medicines) or might be more general information that is incorporated into song, drama or poetry (e.g. the problem of credit from CAHWs). At some stage, PARC-VAC should investigate options for veterinary radio messages in Somalia and draw on resources such as the BBC Somali Service and research which has already been conducted (Hadrill, 1993).

**Scope of operations and time scales**

It is notable that the positive experiences of CAHW systems outlined in this review are all associated with NGOs who have long-term experience of participatory development in Somali areas. ActionAid, Save the Children UK and Oxfam UK/Ireland have been learning how to work with Somali communities since 1983, 1973 and 1984 respectively, with intermittent breaks during major conflict. They also employ local staff who are Somalis. In view of PARC-VAC’s limited experience in Somalia, a small-scale pilot approach over a 3 year period is probably appropriate.

**A role for ‘government’ in Somalia/Somaliland**

Ideally, CAHW systems should be linked to official veterinary services for certification, quality control and disease surveillance. In a climate of veterinary service reform in the Horn of Africa, PARC-VAC will need to consider how future public sector services in Somalia/Somaliland might develop and the roles that they might usefully fulfil. In this respect, the trend towards a regulatory, epidemiology and epidemic disease control function which is evident in other countries should be promoted in Somalia/Somaliland.

A useful starting point for the implementation of community-based animal health in Somalia would be a either a seminar to bring together livestock workers and NGO staff with experience in Somali areas or a brief study tour of projects for PARC-VAC staff e.g. visits to ActionAid-Somaliland in Sanaag Region, SCF in Ethiopia and Oxfam UK/Ireland in Wajir District, Kenya.
REFERENCES


Project. South East Rangelands Project, PO Box 29, Jijiga, Ethiopia.


Mares, R.G. (1951). A Note on the Somali Method of Vaccination Against Bovine Pleuropneumonia. Veterinary Record, 63 no.9, 166.


Save the Children (1997). Stakeholder Workshops on Veterinary Service Delivery in the Somali National Regional State


