

Impact of Community Based Animal Health Workers in Samburu District, Kenya.

January 2010



The absence of community vets would be terrible. We would be helplessly watching as the animal dies, in the case of dystocia, the problem in delivery. CBAHWs are available in an emergency. They are near, they are “doctors in the house”, offering a very good service and they also give us the option to pay later.
(Mrs Lajina Lerkorpita, Bendera village, Baragoi, Samburu District)

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Background

Practical Action's work on food and agriculture is principally focused on working with farming (agriculture, fisheries and livestock) communities in remote and marginal areas. The nature of those marginal areas varies from country to country, e.g. arid lands in Africa, flood plains in Bangladesh. Producers face multiple challenges including low levels of organisation, insecure access to natural resources, poor market integration, poor access to productive technologies, challenging physical environments, insecurity and climatic uncertainty.

Major international agencies such as DFID and the World Bank have long based their policies on the view that agriculture is not a viable livelihood option in these areas and that investment in agriculture should go to high potential agricultural areas from where the economic benefits including employment will spill over to marginal areas. Practical Action is challenging this view by showing that production in areas that are currently considered marginal can be dramatically improved. In these areas the vulnerability of remote and marginal communities can be reduced and populations made more food secure and self-reliant. This can be achieved through holistic capacity building in the following five areas:

1. **Access to appropriate skills and technologies** for more sustainable and diversified production.
2. **Empowerment of communities** to determine their own future as well as to access and influence institutions and decision making process through strengthening the capacity community based institutions to mobilize resources, access information and voice community concerns.
3. **Strengthening access to, and control over, natural resources** including land, water, forests and genetic resources.
4. **Reducing vulnerability to disasters, both short and long term, including those caused by climate change** through strengthening livelihoods, improved hazard analysis and mitigation, disaster preparedness, and adaptation to climate change.
5. **Equitable access to food and labour markets** through strengthening production and processing of food for sale in order to obtain cash income.

One area which Practical Action has emphasised through its projects toward reaching these objectives has been in the establishment of **community-based extension systems** to close the gap in agriculture, livestock and fisheries support services in remote and ecologically fragile areas. It has funded an international survey to assess the impact of the approach.

Practical Action International Survey of Community Based Extension

For the survey on the sustainability and impact of community based extension services, a questionnaire was developed which looked into the same issues across four countries, Bangladesh, Peru, Sudan and Kenya, and focussed on some specific themes of interest:

Education: does the educational level of the community based extensionists correlate with later relative success in practice.

Training: the original motivation of the individual for putting themselves forward for the training, the length and format of the training, most useful and least useful topics, other training subsequently received, types of equipment and inputs donated to them immediately after training.

Coverage: how the coverage area of the service providers has spread out from the original zones and target beneficiaries of Practical Action Projects, and also to see the different models of service provision.

Technical Aspects: the level of demand for the different types of skills, expertise and services offered by extensionist, and new and innovative techniques and approaches pioneered by individual extensionists

Earning/Payment: what parts of the service are voluntary, which attract payments/stipends from NGOs or other institutions, and which aspects have been commercialised; type of payments received; and approach to those who cannot pay

Linkages: linkages to other extensionists, to government and to the private sector in terms of sourcing drugs and other supplies, and access to information and opportunities.

Sustainability/Motivation: the key challenges they face in their work, what they have done to overcome them, why they persist despite all of these challenges and their view on the qualities of a successful community extensionist

Impact: This survey was complemented by a randomly applied household survey in the geographical areas covered by the community based-extensionists. This survey was designed to look at the impact of these extensionists in the context of the broader socio-economic trends affecting the areas.

Whereas the case studies from Peru, Sudan and Bangladesh review the impact of community based extension systems covering a combination of livestock/crops/ horticulture/fisheries, the Kenya case study, due to the nature of the pastoralist production system, exclusively concerns livestock. Practical Action selected Samburu for the study to detect *ex-post* impacts of its earlier interventions in the district between 2000 and 2006. The staff member available to support the study, Dr Pat Lanyasunya, had worked in Samburu between 2004 and 2006 and retained a network of contacts to facilitate the study visit. Since Practical Action is still implementing in Turkana and Mandera, it was considered difficult to disentangle previous from current interventions. In the event, because Practical Action was one of a small group of institutions carrying out decentralised animal health interventions in Samburu, the study evolved into a general appraisal of the impact of such interventions in the district, albeit with special attention paid to geographical areas where Practical Action interventions had taken place.

This report is structured as follows. It gives an overview of community based animal health in Kenya. Then a profile of Samburu district is presented, together with a reconstruction of community based animal health interventions in the district, and the Practical Action role within that. The methodology for the study is explained. The findings from the questionnaires and group interviews are then synthesised and conclusions presented. Finally the Annexes contain full transcripts of the group discussions and the final versions of the questionnaires and semi structured interview schedule used in the study, with the hope that these tools may prove useful as reference material for future surveys.

Community Based Animal Health Worker policy and practice in Kenya

Livestock services were among the first rural services targeted for privatisation under structural adjustment programmes, particularly in Sub-Saharan Africa. The veterinary profession was slow to respond, and the increasing financial constraints effectively paralysed government services in the late 1980s and early 1990s. During this period non-governmental organisations introduced a new model of community-based livestock services. Practical Action (ITDG) was one of the early pioneers of Community Based Animal Health Worker (CBAHW) training the mid 1980s, and adopted an action-research approach with a clear objective to use the results, if positive, to influence the policy environment to allow the approaches to be widely replicated.

As Young *et al.* (2003) show, despite the outstanding success of the new decentralised community based animal health care approaches; it took over 15 years to secure a change in attitude amongst policy-makers towards a favourable review of policies and legislation.. However new legislation recognising the category of CBAHW is still not on the statute book, despite the proliferation of community-based livestock services throughout the arid and semi-arid parts of Kenya. The resistance to definitive reform has been based upon a series of real or perceived fears: e.g. the risk of poor drug administration leading to antibiotic resistance,

and the emergence of a rival service stream pushing qualified professional vets out of business. Provision of strong evidence that none of these fears is well founded (IDL Group 2003) just underlines the point that evidence is a necessary but not sufficient condition for policy change (Young *et al*, 2003)

A turning point in favour of community based approaches was the publication of a letter by the Kenya Veterinary Board (KVB) in 1998 threatening to punish livestock owners and veterinarians involved in decentralised animal health programmes in an attempt to stop what they regarded as a dangerous approach. (Young *et al*, 2003) The letter had the opposite effect. Far from stopping programmes, it forced all stakeholders together into a policy network to try to find a solution to the problem. Supporters in the government used the crisis to launch a multi-stakeholder study which significantly increased the favourable weight of evidence. An upsurge in opposition to the new draft policies from the Kenya Veterinary Association (KVA) in 2001 undermined their progress through Parliament.

From 1998 to 2002 there was a burst of creativity from all veterinary stakeholders towards standardising and agreeing CBAHW practices and considerable progress on draft policies, but these have not subsequently come to fruition. The policy environment for CBAHWs has remained confused in the absence of legislation, with successive Directors of Veterinary Services caught between opposing views of the KVA and NGOs. As became clear in the ASAL Livestock policy review meeting in March 2009, (see Annex 6), the NGOs have failed to maintain momentum on the animal health policy issue and failed to find creative approaches to breaking the deadlock. Rivalry for leadership and profile on the CBAHW issue in the NGO sector has led to fragmentation of policy influencing activities. Contributors to a stakeholder workshop called by Practical Action in March 2009 noted that Practical Action's absence on the veterinary policy scene from 2003 onwards has been a contributory factor in the weakness of the lobby, considering that other players became accustomed to the research, coordination and drive that Practical Action contributed throughout the 1990s. (Practical Action, National Workshop Report, March 2009, Annex 6) Another key weakness in the establishment of community based animal health systems was the inadequate establishment of a CBAHW institution that could provide leadership and lobbying of MPs from its own ranks. CAHNET (hosted at Farm Africa) as an institution representing CBAHWs, has been NGO driven, which reduces its credibility in the eyes of politicians. (*pers com*. E. Kisiangani)

In terms of practice, the NGO training of CBAHWs in Kenya developed into a standard package from approximately 2002 onwards, as the District Veterinarians became more engaged in authorising and participating in the training. The standardised format is: two weeks continuous training, followed by a two week break, followed by a final week, a total of 15 days intensive training. The trainers use the African Union –International Bureau for Animal Research curriculum guidelines, as approved by the Kenya Veterinary Board. This is the key issue for renewed policy lobbying: the KVB has gone as far as to endorse training standards, but will not give any official recognition to the role of the CBAHWs once they are trained.

According to an AU-IBAR review of the situation in Kenya in 2002, a key point of disagreement between field veterinarians and policy-makers is the need for CBAHWs to be literate (Riviere-Cinamond / Eregae, 2003). Field practitioners maintained that literacy is not a determinant of CBAHW performance and that communities rate the non-technical and social qualities of CBAHWs more highly. In Kenya, these findings were confirmed by research on the 'ideal qualities' of CBAHWs, as perceived by livestock keepers (in three districts) and policymakers. Livestock keepers prioritised the qualities 'trustworthiness', 'commitment' and 'responsibility', whereas policy-makers felt that the most important qualities of CBAHWs were 'literacy', 'level of training' and 'ethnicity' (i.e it is an advantage that the CBAHWs are from the same ethnic group as their client group). The AU-IBAR research demonstrated the importance of community involvement in CBAHW selection,

because only community members are well placed to judge the social qualities of potential CBAHWs. (Riviere-Cinnamond / Eregae, 2003)

Since 2002 the training of CBAHWs has followed the KVB approved AU-IBAR guidelines, and the district officials have felt encouraged to add their signature to the CBAHW certificate, this greatly improving their validation, authority to operate and confidence. The fact still remains that this is not an official government certification which would regularise and regulate the CBAHW profession throughout the country. There is currently great uncertainty amongst district level veterinary staff on how and even whether they should collaborate with NGO CBAHW programmes. (K. Pasteur, Interview with Tharaka DVO, 2008)

Another serious impediment to the development of sustainable CBAHW services is that in emergency and relief situations such as drought, conflict or livestock disease epidemics, a common response of aid agencies is to provide free or subsidised veterinary drugs. However, without careful planning with communities, CBAHWs, government and private suppliers of veterinary products, these programmes can seriously undermine the financial sustainability of existing private services. Private veterinarians and para-veterinary professionals who are running businesses cannot compete with cheap drugs supplied directly to livestock keepers by aid agencies or government staff. These programmes also create much confusion among livestock keepers, particularly if another programme (sometimes funded by the same donor) has been working with them to develop a privatised system based on real market costs. (Catley et al 2004)

Profile of Samburu District

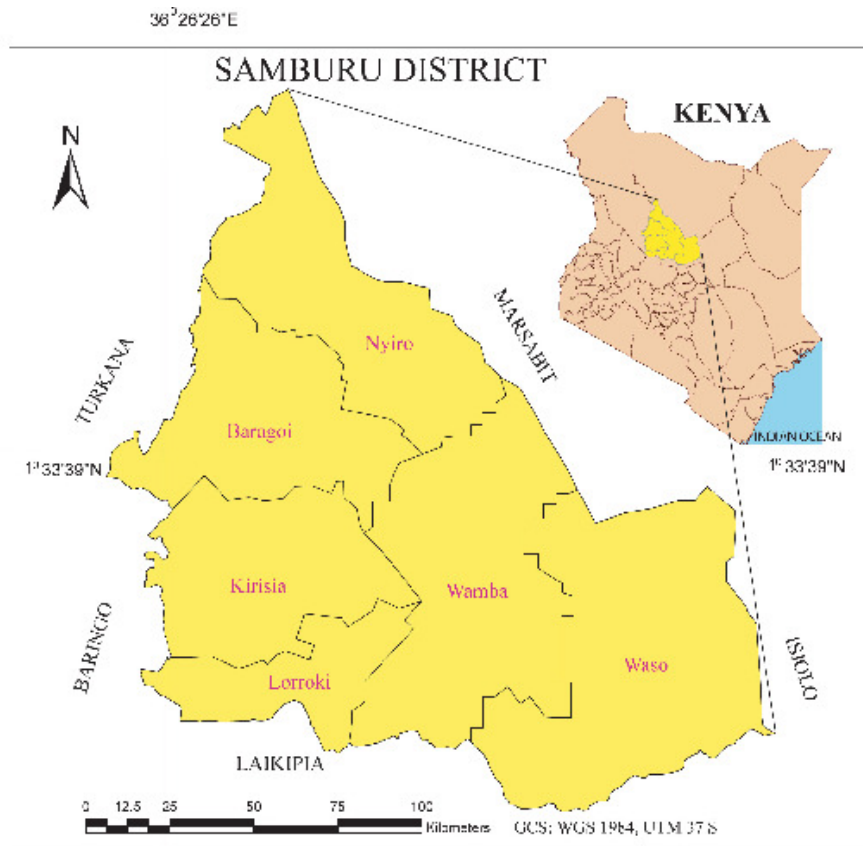


Figure 1 36°26'26"E

The Samburu are pastoralists, numbering about 200,000, live in north-central Kenya, primarily in Samburu district. A semi-arid region, Samburu district receives between 150-750 mm. of rainfall annually (more at highest elevations), concentrated in two rainy seasons in

April and October. Rainfall is spatially and temporally erratic, and the district experiences droughts about every five years. Samburu are semi-nomadic and herd cattle, sheep, goats and, in drier areas, camels. Historically, they were highly mobile, migrating several times a year in accordance with rainfall and pasture availability. Their system of communal land management has functioned to provide a basic livelihood, even in the face of rapid population growth and significant interference from colonial and post-independence governments.

Economy:

Agriculture (crop and livestock production) employs over 72% of the population. Nomadic livestock rearing is the main activity with cattle, sheep and goats being the chief enterprises. The total stock is estimated at 2.23 million. The major problems experienced in this sub-sector are cattle rustling, lack of water and grazing pastures due to frequent droughts, frequent disease outbreaks and poor marketing infrastructure. Farming is plagued by unreliable rainfall, poor farm storage and inadequate land tenure. Non-farm sectors are severely constrained by lack of capital and expertise.

Nearly half of Samburu district residents are classified as being absolutely poor. Pockets of poverty can be found in Baragoi division (64%), followed by Nyiro (51%) and Kirisia division (47%). The factors exacerbating deprivation in the district are listed as cross border insecurity, high illiteracy (71.7%-males, 84.7%-females) due to low school enrolment rates, unpredictable weather patterns and poor infrastructure. Coping strategies employed by households such as migration in search of water and grazing pastures for their livestock often results in school dropouts while cattle rustling results in loss of livestock assets and displacement of families. These deepen poverty and undermine development initiatives.

Food Security:

The effects of hazards such as frequent droughts and cattle rustling that are characteristic of the livelihoods systems in the district have heavy consequences for food security. Shortages of water owing to drying up of water points force some residents to migrate in search of more reliable water points and pastures for their animals. The district has over and over again relied on food and non-food assistance to sustain its residents during droughts. The recurrence of these hazards has also made residents and development authorities to divert resources to emergency mitigation, leaving very little for mainstream development projects. This is creating a vicious cycle and dependency syndrome at the community level. Food insecurity in Samburu district is worst in Wamba, Waso and Baragoi divisions particularly among the disabled, the elderly and children. In addition, gender inequality expressed in terms of low involvement in decision-making, low access to economic opportunities and disproportionately higher traditional chores predispose the women to food insecurity. (Source: www.kenyafoodsecurity.org)

Animal Health Provision in Samburu District

Given the centrality of the livestock to the livelihoods and minimal development of alternative options in Samburu district, adequate veterinary services are essential to economic growth and improved well being, nevertheless the deployment of government veterinary services is totally inadequate to meet these needs. The District Veterinary Office employs two fully qualified veterinarians, and between 5 and 10 Animal Health Assistants (AHAs) with a two year diploma training who report to them. The AHAs are deployed at division level; it is hard to give a precise figure for staffing, as turnover of AHAs in government service is very high. Each AHA notionally attends to a population of well over 20,000. In the government strategic plan for Samburu district, Community Based Animal Health Workers are presented as the only realistic means of beginning to close this chronic service gap.

Diseases and pests are another challenge. The district has limited access to veterinary services – both private and government in part due to poor physical infrastructure which makes communication difficult. The private sector providers of these services are largely uninterested in the district as demand for their services tends to be low and the supporting infrastructure poor. Emphasis has to be laid on traditional knowledge and building the capacity of Community Based Animal Health Workers (CBAHWs) to fill the lacuna.

(PricewaterhouseCoopers/Arid Lands Resource Mobilisation Project, *Samburu District Vision and Strategy: 2005-2015*, July 2005)

The importance of training on modern medicines was raised by research conducted in the late 1980s. Pharmaceutical drugs were entering the district and displacing traditional herbal practices. With herders having only sketchy information on the new drugs, dangerous and counterproductive misuse became widespread. (Heffernan, 1996, 128). This has produced two distinct responses from NGOs. The first was to train Community Based Animal Health Workers on pharmaceutical drug administration. The second, unique to Practical Action, was to codify and validate the herbal practices to try to ensure that they are not lost, working towards a harmonious balance between the two types of practice.

Training of CBAHWs on Pharmaceutical Veterinary Drugs

The first and most important initiative to train CBAHWs in Samburu on modern pharmaceutical medicines took place between 1994 and 1996 under the Samburu District Development Program (SDDP) funded by GTZ in cooperation with Government of Kenya, training approximately 80 CBAHWs, who were distributed among 20 communities. An assessment in 1998 found that except in northern Samburu where there had been much dislocation due to civil conflict, most of these workers were still active. In contrast to other areas of Kenya however, it was found that the drug finances were not managed by committees or associations. The transactions were directly between CBAHWs and local shops, some of which were run by private veterinarians in the Maralal area. (USAID, 1998, 11)

The CBAHWs also obtained advice on treatment and dosage from these shops. Although the CBAHWs were given subsidized “kits” (worth about 30,000ksh) to start off with, they were encouraged or forced to go directly through commercial channels for drug replenishment. These CBAHWs also charged fees for their service which has enabled several to buy bicycles. Livestock owners stated they were happier with the CBAHW service than they had been with the erratic government service in the past, as well as with their own attempts to treat their sick animals. The success of this programme was deemed to be due to the cooperation of the District Veterinary Office, the guidance of GTZ and strong technical assistance from Farm Africa. (USAID 1998, 11)

The training of paravets in Samburu took place *prior* to the formulation of the AU-IBAR endorsed training format which has been used from 2002 onwards, using an approach developed collaboratively by the range of partners present in the district in the 1990s. (FARM-Africa, 2002, *Animal Health, best practices from FARM-Africa's Pastoralist Development Project in Kenya*) Courses were tailored to best meet the trainees' needs, giving particular attention to the most pressing disease problems prevalent in the locality. Training was based on a course manual developed by all those involved in the training—FARM-Africa staff, staff of GTZ and other NGOs, government veterinarians, and CBAHWs, who identified which diseases were prevalent. Government veterinary personnel conducted the course in collaboration with a development agency—often FARM-Africa but especially later, with other NGOs including Practical Action. Its content included:

- general livestock management and nutrition
- livestock husbandry and general health care
- disease diagnosis and treatment
- drug dosage levels and routes of administration

Training was carried out in the local language. At the end of each phase in the training, trainees drew up their own action plans, and at the next session, they reported on how they had fulfilled them. This reporting became part of the training in that session. At the end of the fourth phase, participants received a drug kit worth KES 15,000 to 25,000 and a certificate signed by the district veterinary officer and the development agency involved. The trainees, supported by their community, contributed 25% of the value of the kit.

Selecting the participants was conducted in a participatory manner at the village (manyatta) level. A community meeting was called to discuss what the community could expect to gain by the training of CBAHWs — simple treatment of livestock, advice on good husbandry practices, report of disease outbreaks, a way to make referrals.

They discussed what qualities the CBAHW should have. Selection criteria included qualities such as

- having an interest in animal health, including traditional healers, with herbalists having a particular advantage
- being hard working and committed
- having and keeping livestock

Many of the training approaches used in Samburu became part of the AU-IBAR manual endorsed by the GoK, with one major exception. The training of CBAHWs in Samburu was conducted in four phases of one week each, *held at 3-month intervals*. The intervals gave the trainees the opportunity to practise their newly acquired skills. As the course progressed, the trainees gained confidence in their ability and understanding of good animal health practices. This was ideal for learning-by-doing in the community, but in the AU-IBAR guidelines the gap between the phases was drastically curtailed to ensure the scheduling of government staff participation.

Practical Action Role

Between 2000 and 2002 Practical Action implemented a DFID funded Ethno-veterinary Knowledge (EVK) project, led by Dr Jacob Wanyama. The training of herbal medicine practitioners did not follow a formal pattern leading to certification; it can best be described as capacity building, with the herbalists being facilitated to train amongst themselves. The project team worked with approximately 60 healers in Samburu to identify remedies used by healers to treat worms and other common diseases for scientific validation. In preparation for scientific trials on these remedies, the project established an institutional framework and facilities for research in Baragoi. Through participatory field clinical trials, effective EVK remedies were identified, and the results from these trials disseminated through publications and workshops. (For example Gathuma, J., J. M. Mbaria, J. Wanyana, H. F. A. Kaburia, L. Mpoke, J. N. Mwangi and Samburu and Turkana healers EVK Project, Samburu and Nyiro, (2004) Efficacy of *Myrsine africana*, *Albizia anthelmintica* and *Hilderbrandia sepalosa* herbal remedies against mixed natural sheep helminthosis in Samburu district, Kenya, *Journal of Ethnopharmacology*, Volume 91, Issue 1, March 2004, Pages 7-12)

The main capacity building element came from preparation of remedies in a more precise and measurable manner, using weighing and measuring of ingredients and standardising boiling times. Also cross cultural learning on EVK was organised between livestock keepers in 5 different parts of Kenya.

Additionally, Practical Action explicitly selected 25 reputable livestock herbal medicine practitioners in Baragoi and South Hoor for the 4 week AU-IBAR standardised paravet training, including application of modern pharmaceuticals. The training aimed at equipping traditional healers with skills in modern medicine, which they could then combine with their traditional healers' knowledge, to maximize their opportunities and contributions in livestock health promotion.

The EVK project is an example of a very promising pilot intervention which was not built upon. There are still visits by researchers to record EVK practices, but the potential for

scaling up and commercialisation of the production of proven herbal remedies has not been realised. The reasons for this lost opportunity are linked to the internal problems of Practical Action Eastern Africa in the years 2002 to 2005, an issue beyond the scope of this study. The goodwill still exists for Practical Action to revisit this important stream of work and facilitate options for scaling up the production of scientifically proven herbal remedies.

Subsequent work by different NGOs with CBAHWs in Samburu has concentrated on refresher training for the core of 80 paravets trained by the SDDP, and the 25 herbalist-paravets trained by Practical Action. Interventions by Resource Projects Kenya and an EC funded drought emergency project implemented by an Italian agency COOPI have added 30 newly trained paravets since 2003. A further Practical Action contribution was a component of the Rural Integrated Pastoralist Project (RIPP) which ran from 2004 to 2006. In terms of livestock interventions in Samburu, it concentrated upon livestock breed development, and refresher training of CBAHWs on the latest pharmaceutical drugs and practices. The project also delivered annual vaccination campaigns through the CBAHWs. There was also a process of identification of stolen animals which contributed to the peace building component of the Project. Thirty CBAHWS were given refresher training in early 2006, bringing in business concepts, business skills and linkages with drug suppliers. Two drug shops were also facilitated; one has since folded but the one at Nyiro still survived at the time of the research visit in May 2008.

The overall assessment of the history of animal health interventions in Samburu by former project officer Dr Jacob Wanyama is that lack of formal recognition and lack of coordination between NGOs have combined to weaken the implementation of the CBAHW model in Samburu

District Animal Health Assisants were released to conduct the training of more than 100 paravets but the District Veterinary Officer's signature was never obtained for the CBAHW certificates in Samburu. . Also, due to absence of coordination and even outright competition between agencies, each initiative is isolated from the other. No-one took over the drug shops started by others to continue capacity building process, so they almost all collapsed. (Wanyama interview)

Methodology for Samburu Study, May 2008

Using local contacts built up over the years by Pat Lanyasunya and the project driver Gideon Kurende, ground work was done in April 2008 to raise awareness and stimulate preparedness for the forthcoming research visit. A locally-based highly competent team of 5 trilingual (English, Swahili, Samburu) enumerators was hired to conduct the questionnaires: Stephen Lekimain, Josphat Loing'erua, Mr Lentaaya (Department of Livestock Development, Samburu District), Barnabas Lanyasunya and Elizabeth Posi. Additional veterinary insight, and experience on the research process which was carried out in Sudan the previous month, was provided by Dr Abdel-Azim Imam, Veterinary officer, Practical Action Darfur. The model community based extension and household questionnaires developed for use in the four country studies were field tested and adapted according to the recommendations of this competent and hard-working field team.

The research was conducted between 2 and 10 May 2008 in Samburu Central District:- Lorroki Division- with visits to Kisima, Lkurroto, Mbarinkon and Baawa Locations; in Kirisia Division with visits to Loosuk and Lpartuk Locations and Samburu North District, the Baragoi area including Bendera and Ngilai villages. These locations were selected due to the contacts retained in these villages by Pat Lanyasunya during his period as the Practical Action veterinary officer. Once time had been allocated for testing and reviewing the questionnaires, for logistical preparations and for travel between Maralal and Baragoi, four full days were available to for data collection. For the household interviews, two days were allocated to Lorroki division, one day to Kirisia and one day to Samburu North. Interviewees were selected at random in the villages. The research work started at approximately 11 am,

after animals had been milked and taken out for grazing, beginning in a second settlement at 2pm and concluding at 5pm. Each interview took approximately one hour to complete.

Simultaneously, group interviews were arranged with CBAHWs, facilitated by Pat Lanyasunya. Gatherings of CBAHWs from surrounding settlements were pre-arranged in Lkurroto and Bendera and Ngilai villages. The team attempted to interview as many CBAHWs as could be contacted and located, but in the time available proved impossible to find lapsed or inactive CBAHWs for the sample. The planned group interview in Lkurroto did not take place, as the CBAHWs had work priorities to attend to and left to carry out work as soon as they had completed the questionnaire interview. To compensate for this, a group of three CBAHWs visited Maralal for a group interview.

Due to the English fluency of the entire team, the answers were recorded in English. After a daily debriefing to check for further anomalies and inconsistencies in the application of the questionnaire, the scripts were analyzed each evening by Stuart Coupe and Abdel Azim-Imam. Any apparent inaccuracies were discussed and addressed, if necessary by returning to the individual interviewee for clarification.

The research materials presented in this report were generated from 36 completed CBAHW questionnaires (Annex 8), 58 Household questionnaires (Annex 7), and the three group interview sessions held with CBAHWs in Maralal and Baragoi (Annexes 1-3) which followed a semi-structured interview format (Annex 9). The research report below is constructed from a combination qualitative and quantitative information from the questionnaires and interviews, and gap-filling informant interviews with current and former Practical Action staff: Jacob Wanyama, Pat Lanyasunya, Eric Kisangani and Willie Tuimising.

An amusing incident

Practical Action's senior veterinary project officer, responsible for the EVK work, was Dr Jacob Wanyama. He was a much liked and respected figure in the district and greatly missed by the youth in the vicinity of Baragoi where, amongst other initiatives, he had helped to form a football team. Then in 2006 he left the organisation. Practical Action wound up its activities in the district quite suddenly at the end of 2006 and had not been seen since, creating some sensitivity for the research process. The sense of bewilderment was heightened when the Practical Action vehicle pulled up in the main street of Baragoi and the local youth saw Sudanese research associate Dr Abdel-Azim Imam sitting in the vehicle, mistaking him for Dr Wanyama. When he failed to respond to their greetings, as he does not understand Swahili, the crowd became very angry and started banging on the vehicle, crying "What have you done to Dr Wanyama?", "He has been bewitched!!!", "He has got taller and become unfriendly and doesn't even respond to our greetings!" These are some of the unforeseen consequences of the rather hasty and unexplained exit from the District by Practical Action.

Survey of the CBAHWs

In the sample of 36 CBAHWs from the 8 settlements visited, only one is female. Very few female CBAHWs have been trained in Samburu due to the protective attitude of the community elders concerning women venturing out in conflict affected areas (see Anna Lesampe case, Annex 4). Approximately 60% have no schooling, and 72% are not in the habit of reading or writing.

Education

Educational level attained

Years of schooling	Number	%
None	17	57%
1-6	6	20%
More than 6	7	23%
Total valid responses	30	

The age of CBAHWs is significantly higher than in any of the other Practical Action countries, with 55% of the sample aged 46 and above. This reflects the fact that their original training took place in the 1990s, but also that they were already mature adults at that time. In the community selection process, there was a bias towards the most able healers, with a pre-existing reputation on for example, herbal practice or treatment of fractures, and these are skills that are built up over many years. (*pers. com.* Lanyasunya) Middle aged individuals in their 30s were preferred by their communities because their social characteristics had been established. They were less likely to not leave their villages to towns in search of employment. The youth in their 20s once trained, were more likely to leave their villages for employment. (*pers com* Kisiangani)

The illiterate candidates are catered for by Practical Action in its projects in Northern Kenya using a group approach, ensuring that if 4 or 5 CBAHWs are to be trained from a particular location, at least one of them will have at least Grade 7 education, to facilitate linkages with government personnel and act as a delivery point for drugs, supplies and documents. The use of local language is encouraged in the training; extra effort is made to get the technical terminology across in the local language. If the government staff are not highly fluent, then it is common practice for a CBAHW "elder" to act as a resource person

Age of CBAHWs

Age	Number	%
26-30	3	8%
31-35	4	11%
36-40	4	11%
40-45	6	17%
46-50	6	17%
50-55	2	6%
55+	11	30%
Total	36	

Training

Type of training Received	Number	%
Paravet	24	67%
Herbalist	6	17%
Paravet and Herbalist	5	16%
Total valid responses	35	

In this study, a CBAHW can be a paravet, a herbalist, or a combination of the two. In Samburu there are two streams of knowledge used by CBAHWs, paravet knowledge, around the utilisation of pharmaceutical medicines and herbalist knowledge using local plant species. Specific capacity building of traditional herbalists, undertaken in the Ethnoveterinary Knowledge project of Practical Action, had been received by 11 persons in the survey sample. That does not mean to say that those trained as paravets do not also combine this practice with traditional herbal medicine, it is simply that they had not received any specific training on the subject.

In terms of reasons for taking the training, 50% mentioned income, which is quite high compared to Peru where only 7% mentioned this as an initial motivation. On the other hand 80% also mentioned obligation to the community as a motive for taking the training. On the question of what motivates them nowadays to keep practicing only 3 CBAHWs specified income as the primary motivation.

Motivation for Taking the Training (36 responses)

(Respondents could choose more than one motive)

Motivation	Number	%
Income	17	47%
To gain new skills	29	86%
To gain social status	2	5%
To gain knowledge	26	72%
Obligation	29	81%

What type of support did you receive immediately after the training?

(More than one answer possible)

(Type of support	Number	%
Drug kit	32	88%
Transport	6	17%
Veterinary equipment	25	69%
Cash payment	3	8%
No support	7	19%

After initial training, 88% of the paravets surveyed received a drugs kit and 65% were issued with veterinary equipment. Only 35% have received any kind of refresher training since their initial training. In the absence of new courses in recent years, approximately 85% of CBAHWs have undertaken informal training of other people in the community to undertake basic veterinary tasks, this is a very high percentage compared to the other countries, and

stems from an attempt to compensate for the inadequate coverage of CBAHW services, borne of the limited training initiatives in the district in recent years.

Because of population growth and changes in the grazing patterns, they are moving livestock to uninhabited places. Also groups are moving and establishing new villages. There is a need for training of mobile paravets, there is need for refresher training and training of new paravets – young herders need to be targeted. Ageing paravets need to be facilitated to pass on their knowledge. (Group discussion, Ngilai)

Thirteen CBAHWS/Herbalists had received training other than their initial training (36%) The institutions mentioned as having offered refresher training were Farm Africa, Practical Action and COOPI, Resource Projects Kenya. No course required payment on the part of the trainee. Fourteen CBAHWs have been on an exposure visit, 39% of the sample, all those found the experience to be very useful.

Practical Action continued to evolve its training practice and has upgraded the training around incentives and sustainability. Linkages with the District Veterinary Office are promoted much more systematically than previously - the idea being that the district officers see the CBAHWs as an essential part of their delivery strategy. (Discussion with Practical Action staff Willie Tuimising, Pat Lanyasunya and Eric Kisiangani)

One training team member, either government or private sector, has been added to the training team to offer business skills. This is linked to sustainability problems associated with donating a drugs kit at the end of the training without ensuring linkages and supply for replenishment, i.e. the CBAHWs without business skills quickly become inactive when their kit is depleted. Again the group approach is more effective, where a younger, literate, energetic group leader can select and buy drugs on behalf of the less literate group.

CBAHWs are encouraged to keep clear records to be checked by the DVO, although there has been little incentive behind this and so it has not been operationalised.

Refresher training has also been standardised into a 7 day package, ideally to be delivered twice a year to enable the paravets to keep abreast of disease and pharmaceutical trends.(Discussion with PA Staff)

Coverage

How long have you been working? (31 responses)

Number of years	Number	%
4 years or less	14	45%
4 to 9 years	12	39%
10 years or more	5	16%

There is a large group of 14 who say that they have been working for 4 years or less, but on closer inspection only 3 were trained by COOPI or RPK since 2004. The others were part of the group of 30 CBAHWs that was originally trained by the Farmer Africa led consortium under SDDP but re-activated by Practical Action in 2005: this refresher training target inactive CBAHWs in the most remote and least served areas of the district.

How many villages do you cover? (36 responses)

Number of villages	Number	%
4 or less (Local service)	15	42%
5 to 10 (Moderately mobile)	9	25%
More than 10 (Highly mobile)	12	33%

What is the distance to your most distant client?

Distance in km	Number	%
3 or less	10	28%
4-10	9	25%
10-30	13	36%
More than 30	4	11%

Each CBAHW has a number of ways of organising their service delivery as demonstrated by the following figures: 66% have regular routes around the villages, 33% give services whilst selling inputs, 50% offer services in the market place, and nearly 90% are available to be called out by individual herders. 33% say they are on standby for emergency call outs. Only 11% have a phone consultation service. To reach the clients, 85% are on foot. The only other means mentioned is bicycle by 33% of the sample.

In what ways have you attended the farmers (36 responses). More than one option possible

Mobile phone consultation	4	11%
Regular routes around the villages	17	47%
Whilst selling inputs	12	33%
In the market place	18	50%
Herder calls you out	32	89%
Emergency call out	12	33%

Other opportunities for service provision not included in the above options were as follows.

- ⇒ *During ceremonies.*
- ⇒ *I advise on drugs to the herders as a group.*
- ⇒ *People come to get drugs from my home from as far as Nairobi*
- ⇒ *When I go to preach, as I am the preacher*

All CBAHWs stated that the poor households are included in their service coverage, with 25% targeting the poorer households as their priority clients

Priority client	Number	%
Poor	9	25%
Poor and non-poor equal priority	27	75%
Those who are best able to pay	0	0%

Technical Aspects

Services Provided by CBAHWs

The table shows that the paravets make their living mainly from vaccination, drug administration and performance of small operations. They also provide a range of other advisory and support services in the process: diagnosis, pasture management, calving, breeding, and information on prices being the most prominent. Less than 25% of those that offer these other services charge anything for them. Such a small sample allows us only to highlight potential tendencies; one of these is that the herbal medicine business lags behind pharmaceutical practice, with only 5 out of 13 herbalists charging for their medicines. This herbal medicine is positive as an additional sustainable animal health support system at a local level but barriers to scaling up the practice have not been tackled

Service	Number of CBAHWs providing the service	Number of CBAHWs that charge for the service	Frequency (average)
Diagnosis	24	6	Twice a month
Pasture management	22	3	Once every two months
Fodder advice	16	1	Once every 2/3 months
Breeding advice	23	1	2/3 times a year
Vaccination	26	17	8 doing regularly and systematically (8 times a month) other 9 only when there is a campaign due to an outbreak
Administration of drugs	27	22	10 times a month
Small operations	28	14	Once a month
Large operations	7	5	Once every six months
Calving	30	7	Almost daily in the season
Information on prices	20	1	On market day
Herbal medicine advice	16	1	6 times a month
Herbal medicine provision	13	5	5/6 times a month

According to community participants in the group discussion at Bendera village, (Annex 1) the relevance of herbal medicine remains very high, the most common and effective are:

- ⇒ *Mycine africana* – worms and general diseases.
- ⇒ *Ablizia antehelminctica* – de-wormer
- ⇒ *Salvadora Persica* – reproductive cases (dystocia) and internal clearing.

Processing machines are needed as preparations involve many hours of labour, especially grinding. This greatly hinders the scaling-up of herbal practice. Also, due to deforestation and drought, some herbs have become increasingly difficult to find on collecting expeditions.

On its own herbal practice is not sufficient to meet community needs as there is a range of diseases that require modern pharmaceutical remedies, due to lack of matching herbal medicine. These include:

PULPY KIDNEY – ENTEROTOXAEMIA.

Pulpy kidney is a disease of sheep caused by the toxins of *Clostridium perfringens* type D (a bacterium). It sometimes also affects goats and cattle.

The disease commonly occurs in lambs <2 weeks old fed on high carbohydrate diets or lush green pastures. These tend to increase the bacterial load within the gastrointestinal tract and production of a toxin which then causes damage to capillaries in the brain hence causing the disease.

Control:

Immunization of ewes.

Giving lambs toxoid during the high risk period

TSETSE-TRANSMITTED TRYPANOSOMIASIS

This group of diseases caused by protozoa of the genus *Trypanosoma*.

Control

Several drugs can be used for treatment and chemoprophylaxis (samorin, sumarin, berenil)

CONTAGIOUS CAPRINE PLEUROPNEUMONIA (C.C.P.P.)

A highly fatal disease that occurs in goats in eastern Europe, the Middle East, Africa, and Asia.

Control

Vaccines are available in some countries, and good to excellent protection has been reported. Treatment with tylosin at 10 mg/kg, has been effective, as has oxytetracycline (15 mg/kg).

BABESIOSIS.

Babesiosis is a disease caused by a protozoan that infects red blood cells

The species affecting cattle are *Babesia bigemina* and *Babesia bovis* which are widespread in tropical and subtropical areas. The vector for transmission is *Boophilus* ticks.

Treatment and control

Several drugs are available Imidocarb dipropionate. Diaminazine aceturate, Imicarbalide, quinapyrium.

ANAPLASMOSIS.

This is a disease of ruminants caused by a rickettsial parasite (*Anaplasma*) that infects red blood cells. The disease occurs in tropical and subtropical areas worldwide. It is not contagious and is transmitted by numerous tick and biting fly species.

Control

Tetracyclines and imidocarb dipropionate are used for treatment

LUMPY SKIN DISEASE (L.S.D.)

Lumpy skin disease is an infectious, eruptive, occasionally fatal disease of cattle characterized by nodules on the skin and other parts of the body.

Secondary infection often aggravates the condition.

Prevention

Vaccination with attenuated virus.

FOOT AND MOUTH DISEASE –F.M.D. (aphthous fever)

This is an extremely contagious, acute viral disease of all cloven footed animals characterized by fever, vesicles in the mouth, feet and teats.

Control

Imposition of strict quarantine in affected areas

Eradication when compensation is done

Vaccination in areas where the disease is enzootic

PESTE DES PETITS RUMINANTS (P.P.R.)

A similar disease syndrome as rinderpest in large ruminants.

Control

State and federal authorities should be notified when PPR is suspected.

Vaccination and imposition of strict quarantines

Information sources

The source of information in which CBAHWS have most confidence are the government and NGOs whilst the source in which they have least confidence are Herbalists. A tentative interpretation of this result is that despite capacity building and confidence raising efforts around EVK, there is still a tendency to put greater value on external knowledge holders than on internal indigenous knowledge capacities

Other CBAHWS	23
Friends/Neighbours/Relatives	32
Government officials	29
NGOs	17
Herbalist	17

Level of satisfaction with Information

Source of information	Satisfaction Level			
	Very	Quite	Average	Not
Other CBAHWS %	33	29	14	24
Friends/Neighbours/Relatives %	29	19	26	25
Government officials %	43	29	18	10
NGOs %	47	29	18	6
Herbalist %	29	6	41	24

Sources of Supplies.

The pattern that emerges from this data reinforces the opinions expressed by the paravets during the study visit: the major constraint faced by CBAHWS in Samburu is the constant struggle for a reliable pharmaceutical drug supply. Donations of drugs are irregular, but also disrupt demand and contribute to the weakness of the private supply chain

- ⇒ Seventeen CBAHWS get inputs and supplies from other CBAHWS, mainly de-wormers. If a CBAHW obtained them as a donation they will be shared with other CBAHWS, but if the de-wormers were bought from a commercial stockist then the CBAHW has to buy them off the other CBAHW that bought them from the stockist.
- ⇒ Nine CBAHWS said that it was sometimes difficult to obtain inputs from other CBAHWS.
- ⇒ Twenty-three get inputs and supplies from the District Veterinary office, this is exclusively a source of vaccines. Sixteen stated that they had to make some payment to obtain these vaccines, and 13 stated that they sometimes face difficulties in obtaining the vaccines.
- ⇒ Twenty-seven get inputs and supplies from NGOs, mainly de-wormers, 18 state that they never pay, but 19 also stated that they sometimes face difficulties obtaining inputs from NGOs.
- ⇒ Twenty one CBAHWS obtain inputs from private stockists: all types of drugs are sought from this source. Eleven state that they sometimes or always face difficulties obtaining the drugs that they need from this source.

Earnings/Payment

Income figures are notoriously difficult to interpret and the range of figures quoted is so wide that some of the respondents may have mentioned total turnover whilst others mentioned net profit. Nevertheless, these figures can be used as a guide to the annual cycle of paravet activity, which is very low in January and February and reaches a peak in April and August. April is the start of the rainy season, when the animals are at their weakest, and a lot of diseases breaking out, the worm burden is high. August is the late rains, a prevalent period of disease outbreaks, de-worming in preparation for peak market season. September to November is less busy but income peaks due to sale by CBAHWS of animals that have been received earlier as in-kind payment. Also other herders have sold animals and are settling in cash for services originally received on credit.

Typical annual cycle, busy months and monthly income (36 respondents)

Month	No. Busy during the month	Ave. income
Jan	2	2531
Feb	1	2605
Mar	19	2863
Apr	32	3650
May	14	2756
Jun	9	2669
Jul	13	3472
Aug	27	3639
Sept	9	4262
Oct	8	3334
Nov	9	3243
Dec	5	2358

Means of payment by client (more than one option possible)

	Number
Never receive payment	7
Cash	29
In kind	18
Labour	1

Dedication to animal health work.

	Number	%
Full time occupation	9	26%
Main, but not only occupation	9	26%
Secondary occupation	16	48%
Total valid responses	34	100%

Nine CBAHWs had experience of being hired on contract by an institution.

We asked the CBAHWs what they do when somebody says that they cannot pay and the responses indicate a much tougher stance than in the other countries in the survey, the most common response was “I call a council of elders to force him or her to pay”. After that the alternative is simple “I will not treat his animals again”. However there is an element of compassion for very vulnerable community members evident in responses such as “in extreme cases I just help them”. Seven paravets, 20% of the sample, say that they never receive payment, implying that they work as advisers in their local communities and have not been able or willing to commercialise their services. There are only very rare examples of paravets charging for advice alone. Interestingly, 11 paravets say they do not make any charge for vaccinations, either they only charge the cost price without making any profit for themselves, or they administer vaccinations provided free by NGOs

Linkages

The overwhelming problem reported by CBAHWs in Samburu district is the supply, quality and cost of drugs, which threatens to make their work unviable. This was specifically mentioned by 23 CBAHWs. Closely related to this is the problem of availability and

affordability of transport, to purchase drugs or collect herbs, and to visit clients dispersed over wide distances. Other constraints mentioned at least 5 times in the survey were: lack of equipment, lack of adequate premises and technology for preparation of herbal remedies, and lack of refresher training leading to lack of knowledge on new diseases. Problems of insecurity were mentioned particularly by herbalists who visit the wild areas to collect roots and bark.

In terms of overcoming these challenges and constraints 9 CBAHWs said they had been unable to do anything to mitigate them. A larger number, 13, say that they sell animals in order to buy drugs and syringes. Other options mentioned more than 5 times are purchase of a bicycle, paying for travel to the district town (Maralal) Bulk buying of drugs to reduce the frequency of trips was mentioned 3 times.

John Leadura (50) is the chairman of the CBAHWs' organisation in Samburu, a registered community based organisation which liaises with the District Veterinary Office on disease outbreaks and vaccination campaigns. He raised a major challenge around transparency: no information is available to them on the amount of donated inputs and supplies coming through the DVO, intended for the communities. The CBAHWs in Samburu have had no success in being represented in decision making or resource allocation processes.

Sustainability/Motivation

According to John Leadura 50 paravets are still active in the areas of Maralal and Baragoi, (the study managed to interview 36 of them). Due to uncoordinated NGO training efforts, there are no established figures on the total number of paravets trained in these geographical areas, but Leadura estimates that there were originally approximately 100 paravets. The reasons given in the CBAHW group discussion (Annex 2) for this attrition are: death, displacement, old age and the strain of attempting to acquire drugs supplies without any capital. The sustainable capitalisation of drug supply requires further attention and is a major feature of Practical Action's current approach to CBAHW training in Turkana and Mandera districts. The other causes for dropping out are beyond the control of any animal health intervention however well designed, and that means that the only solution is the training of a new group of CBAHWs in Samburu. This is a specific request from the currently active CBAHWs.

Other difficulties which are discouraging to CBAHWs in the absence of institutional support mechanisms, mentioned in the group discussion at Ngiliai (Annex 2) are the emergence of new diseases, growing resistance to existing drugs and the difficulty of discriminating fake drugs from genuine products.

Approximately 9 paravets out of the 36 interviewed have emerged as full time professionals, albeit in the informal sector, owning drug stores or covering vast areas with a mobile service. George Lenguro is the most successful CBAHW in Samburu, covering 40 settlements in a 50 mile radius of Maralal with a highly organised system of handlers in each village, who organise the clients and witness the work in case of later complaints.

I now cover forty villages and have developed an efficient business approach. I have a handler in each village, to help with the work, to witness the work and count the animals. The handler gets 200 shillings. He fetches the implements for me from the bag. I engage in barter trade if money is not there. Agreement is reached before treatment starts that they payment will be this amount, and I will follow up on such a day. I keep very accurate records

A localised service was provided by the majority of the 25 herbalists in the Baragoi group, with treatments being provided in return for small in-kind payments, whereas 4 "more exposed" individuals quickly incorporated learning from other district for commercialisation of herbal medicines. Herbalist groups in Samburu continued to function in the Baragoi vicinity but they were not formally registered as CBOs. (Interview, Wanyama)

Given all of these constraints and the difficulties of overcoming them, we asked what the motivation to keep on working was. The most popular answer was pleasure of helping the community to have healthy animals, only 3 mentioned income as their primary motivation. One CBAHW was motivated by the prospect of passing on the profession to his children. For those that have become less active, we asked what would inspire them to provide a more active service: the most popular answer, (12) were simply requests for donations of drugs, equipment and bicycles. However 11 CBAHWs mentioned more training and 3 mentioned the opening of a good stockist in their vicinity would reactivate them.

Impact of CBAHW Services: Household Survey

The team of enumerators conducted 58 questionnaires in the 8 settlements visited, with a priority of interviewing household heads, whom were considered best placed to assess the household situation over the previous decade. So in the sample, 49 of the interviewees were household heads, there were 10 women in the sample, 3 of whom were household heads and the other seven were wives of the household head. Only 3 of the male interviewees were not household heads. 78% of the interview respondents unable to read and 90% of the principal women in the household are unable to read.

Family size	Number of HH	%
3-6	30	52%
7-10	23	39%
11-15	5	9%

Children under 16 in HH	Number of HH	%
0-2	21	36 %
3-5	25	43%
6-8	12	21%

All 58 respondents were aware of the presence of paravets and all had received services from them, whilst 8 were aware of the presence of herbalists, and these 8 had received services from a herbalist.

Number of times attended by CBAHW in the last 12 months	Number	%
0-5	41	71 %
6-25	9	15 %
More than 25	8	14%

The optimal visit schedule for a CBAHW to review a particular herd is once a fortnight, and as minimum once a month: (pers. comm. Pat Lanyasunya). Therefore the problems of mobility outlined by the CBAHWs are having a very marked impact on the level of service provided. Only those living nearest to the CBAHWs' homesteads are able to access an optimal level of service. A quarter of the households offered comments on specific problems with the CBAHW service, the most frequent being that they are short of drug supplies. There were only 4 negative references to the service of the CBAHWs not being available and only one related to conduct (drunkenness) On the issue of alternatives to cash payment, this was possible for services not involving drugs: 5 households stated that their CBAHWs were satisfied with small gestures of hospitality, like a meal or cup of tea. Five others specifically

mentioned that for more important services like operations, they would offer a lamb or kid as payment.

First choice of livestock service provider, Year 2000

Service Provider	Number selecting as first choice provider	%
Government extensionist	32	55%
CBAHW	10	17%
Other herders	6	11%
Shop/dealer	3	5%
NGO	5	9%
Herbalist	2	3%
Total	58	

First choice of livestock service provider, Last 12 months

Service Provider	Number selecting as first choice provider	%
Government extensionist	19	37%
CBAHW	28	55%
Other herders	0	0%
Shop/dealer	1	2%
NGO	2	4%
Herbalist	1	2%
Total	51	

In 2000, the first source of livestock services was the government (55%) with paravets mentioned by 17% of respondents. Currently paravets are mentioned by 55% as the first source of livestock services, with government services down to 36%. The relevance and quality of both service providers is generally rated as good.

However the critical indicator here is that in terms of availability (ability to come and treat animals when required), **95% rate the paravet as average or good, only 5% say that the availability is poor. As far as government services are concerned however, 72.5% rate availability as poor, 24.5% say it is average and 3% say that it is good.**

Around 50% of households have consulted a herbalist (natural medicine specialist), with nobody rating the quality or availability of the service as poor. Why do the herbalists not feature as first choice service providers? Possible reasons are that herbal products and services are less systematically available and widespread across the district than paravet services. Also their remedies may be more effective for chronic conditions but for many diseases outbreaks which produce acute and life threatening condition, there are no known alternatives to pharmaceutical drugs. The group discussion involving paravets and herbalists at Ngilai offered the following verdict on herbal practice:

Herbal practice is going on, although not at a commercial level. Some few specialists are coming up – new people are coming onto the scene offering innovative human and livestock treatments. Nevertheless this is generally a traditional practice in the village.

Socio-Economic Trends

In 2008 the total number of cattle owned by the 58 households was 926, the average per household being 16. That compares with 1977 in 2000, with an average herd size of 34. This is mainly accounted for by a drastic reduction in the largest herds, which are the target for raiders. The average goat herd has decreased from 46 to 36, again the major decline being in large herds over 100, due to recent rustling. Camels seem to have been particularly affected by new diseases unknown by the paravets: in 2000, 13 households had a total of 121 camels; currently this is down to 10 households with just 36 camels. The average chicken holding has remained constant at around 12, but chicken ownership has become more widespread with 23 families reporting owning chickens compared to 8 in 2000. Other assets have been gradually increasing: bicycle ownership is up from 15 to 33% of households whilst mobile phone ownership is up from 4 to 24%.

Thirty nine respondents are better able to cope with drought and only 9 say that they are less able to cope than before, the reasons being that they are living in large villages and have sufficient pasture due to the improved pasture management practices recommended by the CBAHWs. As far as mortality of livestock is concerned 31 respondent said that this had reduced. The main reasons being given are that their own management improved (7) they had better access to drugs (6), and the presence of CBAHWs (8). Sixteen said that mortality had increased due to raiding and persistent drought. The responses also show a diversification of livelihood options, 17 of the 44 respondents who state that their livelihoods have improved attributed this to new small business or trading activities.

All these factors together, higher quality animals and livelihood diversification, and better coping strategies for drought and conflict, account for the fact that in 2000, 37.9% of households report that they were doing "OK" or "Well" whereas now 87.9% are doing "OK" or "Well". Here are some simple but moving testimonies on the importance of the presence of paravets for these communities, in their struggle to overcome adversities:

when one of my cows had complications when calving and almost died, one of the paravets helped the cow calve and injected it so saving both cow and calf.

the most important thing is that when all my sheep and goats got a terrible disease he came and treated them on credit because I did not have anything

Conclusions

In Samburu, the CBAHWs (Community Based Animal Health Workers) armed with a combination of modern and ancestral knowledge have been active for 15 years. They play a vital role in maintenance of pastoralist livelihoods, in a context where the district veterinary department is overstretched. During that time, there has been an overall decline in livestock numbers, reflecting a series of adversities: raids and conflicts and chronic droughts.

There is a spectrum of CBAHW in Samburu, ranging from those that have overcome the many constraints to offer a full time commercial service, to those that have offered a localised service as a secondary livelihood option. This range of activity applies equally to herbalist and paravet practice. The majority are local CBAHWs who benefited from the training with respect to their own herds and shares lessons with neighbours and extended family, their presence in the community as knowledge sharers is a valuable factor for resilience. They have been unable to surmount the barriers to commercialisation, principally due to failure to accumulate working capital to maintain their drug kits, or invest in herb processing equipment, and their work as CBAHWs has remained as a secondary option to the maintenance of their own herds. The professional CBAHW, are the minority in Samburu, approximately 25% of the total, providing services covering more than ten communities or travelling further a field on contract to government or non-government programmes. They are

literate, entrepreneurial and give leadership to the local CBAHWs. The combination between local level and mobile CBAHWs is a positive feature of the animal husbandry landscape as both play an important role. The village level CBAHWs are available in emergencies, whereas the mobile CBAHW carries out more routine health care. For communities that no longer have a local CBAHW due to death or displacement, the services of the mobile CBAHWs take on a greater significance.

The study reveals that communities are coping well, that sound para-veterinary practitioners are well established in the district and making an indispensable contribution to the current sense of well-being expressed by communities. This is a precarious advance – a devastating drought or raid could wipe out this progress. Also as time goes on moreover, the CBAHW services will be spread more and more thinly, unless new initiatives are formulated.

As well as the need to lobby for regulation and registration policies for CBAHWs at the national level, there is a need for a major new initiative on animal health in Samburu district to support and empower the existing CBAHWs and Herbalists, and train a new generation. The two activities are mutually reinforcing, as the more favourable the policy environment is, the more likely that donors, the Government of Kenya and NGOs are to formulate major CBAHW training and support programmes in the future.

Within this coalition, Practical Action has a special role and legacy to fulfil on the issue of Ethno-veterinary Knowledge, with attention needing to be paid to the labour constraints in the production of proven herbal remedies for ticks and worm infestations that constantly affect livestock in tropical Africa.

Once there are signs of movement towards standardised national training approaches, it becomes important to retain flexibility on minimum entry standards, as it is very important to continue to include the older, less literate pastoralist groups as CBAHWs - they can be excellent in traditional medicines and surgery, often greatly exceeding the animal healing skills of qualified veterinarians.

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Annex 1: Focus Group Discussion at Bendera village

Baragoi. 7 May 2008. Participants: Mixed group of 10 villagers, including 2 CBAHWs.

Nkampuni Leremore, M, 33, Wilson Leleruk, M, 30, Pirison Lengumeni, M, 56, Lepois Letilipa, M, 32 Ltarangon Leperepere, M, 55, Lajina Lerkorpita, 35 Banair Leleshore, M, 65, James Leparie, M, 48 Lomuguny Lemarkele M 59 Silvana Leparoiya, F 30 Lentoimaga Toitas M, 35 Leshore Lepain (CBAHW/Herbalist) M, 60, Joseph Leremore M, 27 (CBAHW).

There are around 50 trained animal health workers in the vicinity of Baragoi. About 50% are active. They were trained by the ASAL programme SDDP. They then received refresher training from Practical Action

Reason for Dropping out:

- ⇒ Small kits – not sustainable- kit not sufficing
- ⇒ Some have died and others have moved away

Sourcing of drugs is a huge issue. No established sources are around. There is an issue of transport costs; if drugs are to be sourced in Maralal, profit is diminished.

Due to insecurity the paravet operations have been destabilised. It became hard to attend the customers. Paravets lost their medicine stocks due to expiry. Attending to ones own affairs became a priority due to insecurity.

Herbal Medicine

Herbal medicine relevance very high, the most common and effective are:

- ⇒
- ⇒ *Mycine africana* – worms and general diseases.
- ⇒ *Ablizia antehelminthica* – de-wormer
- ⇒ *Salvadora Persica* – reproductive cases (dystocia) and internal clearing.

Processing machines would help as preparations involve a lot of labour, especially grinding. Some herbs are not available all the time.

Diseases that require modern pharmaceutical remedies due to lack of matching herbal medicine include: Pulpy kidney – *enterotoxaemia*, *Tripanosomiasis*, *CCPPP*, *Babesiosis*, *Anaplasmosis*, Lumpy Skin disease, FMD, PPR

One herbalist who has succeeded has moved to Narok to fully commercialise, he has a grinding machine for grinding of barks and seeds. He found a lost of interest from the Maasai and is making plenty of money. Also there is more demand in human remedies, some have turned to that.

Importance of CBAHWs

Absence of community vets would be terrible. We would be helplessly watching as the animal dies, in the case of dystocia, the problem in delivery. CBAHWs are available in an emergency. They are near, they are “doctors in the house” very good service and they also give us the option to “pay later”.

Government Services

Availability of government services is poor; they don't move around to deliver services. Their number is very few, just one fellow in Baragoi, not very available in the villages. Livestock which are in *fora* (moving herds in search of pasture) rely on services of paravets and cannot get regular access to government services.

The DVO at Baragoi is not equipped – when cases are reported there by paravets, they don't have the necessary drugs or vaccines available. They refer them to the Maralal office, even that one is not equipped. They sometimes have to wait 1 or 2 months for a government response, by which time the livestock are badly affected.

Annex 2: CBAHW Group Discussion at Ngilai village

Baragoi, 7 May 2008, 15 participants:

Lehamusen Leleshore 45 Leremin Lelesher 60 Kingi Leshoe 53 Jeniffer Leshere 30, Lemerae Lenketai 40, Kahero Letoto, 56 Ltorision Lasagurukuri, 52 Ltirimo Leremore, 45 Parare Leakono 58 Lkomag Lengarai (age unknown), Jeremiah Lelekong, 53 Somboret Lenangetai 46, Francis Lengerai 30, Lelemol Lereete, 38, Ekaale Lengusa 58.

They were trained originally under the ASAL programme from 1992 onwards. Updating of knowledge has been entirely their own effort. No external help has been seen recently. They keep going on a low scale, with low capital. Farm Africa also gave training but not material support in the 1990s, and with that support they formed the Namyak Drug Group. In 1996, before the clashes with the Turkana, that group was very active. Then the group scattered, they carried their drugs with them, their systems were entirely disrupted, and the group has never revived. Then Practical Action came in with both herbal and modern refresher training and kits. They had a certificate but the management committee was holding them, some members never came back after the clashes, and all the records were lost. Now they work informally as individuals.

Current Practice

Cases of failed treatment are few, as the villagers rely on them so much they don't get into a dispute situation. The cases of overdoses are just treated as bad luck. Expired drugs are still used, on a trial and error basis, when the kits are depleted.

The practice of CBAHWs has been scaled down to advice in most cases- drugs are very far away for sourcing. There is no charge for the advice. Depleted kits take time to replenish.

Herbal practice is going on, although not at a commercial level. Some specialists are coming up – new people are coming onto the scene – very artistic human and livestock treatments- nevertheless this is a traditional practice in the village.

Stockists do bring drugs to Baragoi, but with exorbitant prices that pastoralists cannot afford. The variety is not there. Also fakes are common, trusted remedies are not there. When they started out they had good drugs available. Healthy calves and kids were guaranteed. Now we have a lot of suspicions, we tried on the livestock and they don't work.

If they can get remedies like through the emergency project (Practical Action 2005-6) that would be good – mass de-worming remedies were sourced directly from importers and manufacturers in Kenya.

There is a fake acaricide – it makes the ticks even happier! Resistance is developing amongst the fleas and the ticks. There is a labour constraint on the production of local remedies.

Need for new training

Because of population growth and changes in the grazing patterns, they are moving livestock to uninhabited places. Also groups are moving and establishing new villages. There is a need for training of mobile paravets, there is need for refresher training and training of new paravets – young herders need to be targeted. Ageing paravets need to be facilitated to pass on their knowledge.

Value of Paravets

Paravets are within reach, they are people we can trust, we can acquire expertise from them, and their knowledge is within our reach – if only they were fully equipped. The major problem they have is not having a good variety of drugs at their disposal.

New Diseases

Sudden death in camels: we don't understand what has happened.

Goats: there is a disease affecting the eyes of the kids.

Livestock officers are told of these cases but there is no reaction to date

On breeding there is exchange with places with known affinity – like Borana. There is also local selective breeding going on. Exchange of good rams – it is done for free. It needs

developing and perfecting – any tendencies towards in-breeding need to be tackled with capacity building.

Annex 3: Group Interview, following semi-structured interview schedule, with 3 CBAHWS working in the vicinity of Maralal

1. George F Lenguro
2. Lepindira Lacharkole
3. Liaman Lesiangole

Trained in 1997 on the Samburu District Development Project, a training course conducted by the veterinary department, offering 5 weeks training over 5 months.

GL Selected through a process of PRA involving community/NGO/govt.

LiLe Community sat down and were asked to select from the many, to be given drugs and serve animals at home.

LeLa Selected by the community to be trained. Someone to be near to the community.

GL In the communities we have committees, who know everything, who can do that work, and will be ready to do it. We knew diseases that cause death and loss of production and contagious diseases, we wanted to find out how to deal with it. The training was a bit difficult for those who did not complete. GL had a diploma in Range Management and Animal Health from Maasai Rural Training Centre, Isinya, Kajiado. 1 year full time course. For him the SDDP was refresher training – new information and practical instruction.

LiLe The training helped us a lot, we knew how to give animals drugs, we can treat in a better way, able to learn exact dosages and handling of drugs. Injection and drenching – drug administration was key.

LeLa Good – at the start it was hard, but soon they were able to do it. Key thing is knowledge of the drugs

GL Identification of diseases we could not identify before. Now able to give reports to veterinary dept. Also doing the treatments – when we are defeated we run to get help, the response has been good.

LeLa Knowledge of animals that are not good for human consumption, ensuring practice of burial rather than consumption.

LiLe Some poison drugs that are useful for destroying pest animals, these were not covered in the training.

GL Was taught parasitology of camels by Farm Africa. Original training did not cover camels in sufficient depth. Camels are becoming more common, they are economical and easy to manage.

GL Certificate authorised and signed by vet department. Also certificate from COOPI, vet dept. Disease Control Commission workshop 2005. Farm Africa seminar.

LiLe When government comes for campaigns we participate.

LiLe They have been trained to identify symptoms; they will know when the animal is better. You will see the change after the treatment has been applied. Take dropping and also enquire with owner.

GL Get the history of the animal, prevalence of diseases in the area. You will come back after treating. Recording of the temp, have worms come out – very thorough follow up. Sometimes when you are called the animal is critical, you treat it but it dies. There are diseases which hit suddenly. Sometimes we manage to save the animal and it recovers. In general they have very few failures

LeLa Sometimes treatment failed due to drugs having expired or not good. Or owner let situation get bad before seeking treatment.

LiLe Has participation just in his own village, those people around him, around 100 families. He still has tool box he was given. Sometimes he buys new drugs for himself. Otherwise

people go and buy the drugs and they call him to administer the correct dose. He just charges something small as life is very difficult for all.
 When I see that the drug supply is getting low, sell one sheep or goat to replenish the stocks.
 When he is doing the work he is going to get a profit to keep him going.
 Cows – most were dying of East Coast fever.
 Shoats – they are dying and not doing very well. Vaccination of the goats – has not been happening.
 Coccidiosis – mortality.
GL People have started introducing camels, there is a growing presence of hybrid cows, there is also growing of trees
LeLa Serving 150 families, as neighbours used to come to me asking for services. Started treating animals, community supported him with small payments to keep him going. He will not stay without drugs as his own animals require them too.
GL Toolbox with drugs was donated. The community called him. Treating camels at the same time. Charges a small margin to sustain the job.
 I now cover forty villages and have developed an efficient business approach. I have a handler in each village, to help with the work, to witness the work and count the animals. The handler gets 200 shillings. He fetches the implements for me from the bag. I engage in barter trade if money is not there. Agreement is reached before treatment starts that they payment will be this amount, and I will follow up on such a day. I keep very accurate records
 He has done short term contracts with Farm Africa – 6 months.
 Facilitation at Baptist Animal Care Centre, dealing with bluetongue. Got a bicycle.

To activate LeLi and LaLe, they should be given a refresher course and boosted with some drugs. The donations they were given were very small. One bottle was given, we have been selling animals. Bicycles were finished long ago.

Annex 4: Abstract of Findings from EVK study

The findings from these trials were reported in academic literature, the following is the abstract from the *Journal of Pharmacology* published in 2004 (Gathuma et al, 2004)

Traditional livestock healers from Samburu and Turkana communities in Samburu District of Kenya were identified and recruited for participation in this study. Sheep with mixed gastrointestinal helminthosis were purchased from nomadic livestock owners in the area. Three herbal anthelmintic remedies, viz. *Myrsine africana*, *Albizia anthelmintica* and *Hilderbrandia sepalosa* were administered in the traditional way by the healers and their efficacy determined using percent faecal egg count reduction (percent FECR) test. The results indicate that all the herbal remedies had some efficacy against both nematodes and *Monezia* species of helminths. The group effect against nematodes was significantly different ($P=0.002$). Compared to an untreated control group, the efficacy against nematodes was 77, 89.8 and 90% for *Myrsine africana*, *Albizia anthelmintica* and *Hilderbrandia sepalosa*, respectively, while albendazole had 100% efficacy. The main nematodes encountered included *Haemonchus spp.*, *Trichostrongylus spp.* and *Oesophagostomum spp.* With regard to *Monezia* species herbal remedies performed better than albendazole with an efficacy of 100% compared to 63% for albendazole. The group of sheep treated with *Albizia anthelmintica* showed a significant increase ($P=0.003$) in packed cell volume (PCV).

Annex 5: Farm Africa Profile of a Woman CBAHW (2002)

Community-based animal health worker Anna Lesampe

Anna Lesampe lives in Sererit of Baragoi Division Samburu District. She was her husband's second wife and had three children. When the camp came to Baragoi Division, the community approved that she be trained with others as a community-based animal health worker (CBAHW). But the elders cautioned the FARM-Africa personnel to ensure proper protection of

their wife. After 9 months of training she acquired a drug kit, contributing 25% of its cost. Unfortunately, her husband died during this period, and she was left with the responsibility of bringing up her children as well as entering into a new and demanding profession of providing animal healthcare.

In the Sererit region, each CAHW is assigned a specific area. Being the only female CBAHW, Anna was assigned to serve the manyatta [encampment] and pastoralists nearby. Male CAHWs provided services farther away. Although illiterate, she kept good records with the help of a primary school teacher.

• Anna has made a change in the community's attitude about animal health service.

Although once they had thought it was a male activity, now all community members, male and female, seek out her services.

• Anna gained recognition from community members as she was seen as a well-off person who had ready cash to attend to her and her family's needs, with enough to buy foodstuffs and pay for school fees.

• She attends to about 20 cases per month, for which she has chalked up a 95% recovery rate, and she has reduced the number of deaths in her own livestock by using the skills she has acquired to manage them.

Annex 6: Practical Action, National Workshop Report

ADDRESSING CHALLENGES TO DELIVERY OF LIVESTOCK SERVICES IN ARID AND SEMI-ARID AREAS, SILVER SPRINGS HOTEL NAIROBI, 26TH MARCH 2009

Compiled by: Fredrick Njeru and Julius Kajume.

INTRODUCTION

The one day workshop was hosted by Practical Action, to review the challenges faced in the delivery of livestock services in the arid and semi-arid areas (ASAL). The workshop sought to discuss how the various development agencies can build on the experiences and lessons learnt to improve service delivery in the future.

The workshop participants included staff from NGOs and CBOs working in the ASAL areas, technical staff from the Departments of Veterinary Services and Livestock Production in the Ministry of Livestock Development, Drug company manufacturer's representatives, and representatives of Kenya Veterinary Privatization Scheme (KVAPS) and the Kenya Association of Livestock Technicians (KALT).

A full list of participants is attached as annex 1.

PARTICIPANTS EXPECTATIONS

The expectations of the participants were well in line with the workshop objectives. These expectations revolved around the following issues:

- Develop a common understanding and a good plan on mainstreaming livestock service delivery in the ASAL.
- Practical recommendations on how the delivery of livestock services in the ASAL can be improved.
- Understand the roles of the various stakeholders in the delivery of livestock services.
- Share experiences on community based livestock service delivery and how it can be improved.
- Identify and share best practices for community based livestock service delivery system.
- Networking systems
- Practical solutions in reducing livestock diseases and food insecurity in the ASAL.

WORKSHOP PROCESS

A prepared programme was used to guide the workshop process (*annex 2*).

In order to ensure full participation the following approaches were used:

- Plenary presentations to trigger discussions
- Plenary discussions
- Group work on identified issues
- Feedback presentations by groups

WORKSHOP OBJECTIVES AND EXPECTED OUTPUTS:

(Mr. Willie Tuimising-Ag. Regional Director, Practical Action)

While presenting the workshop objectives, the Acting Regional Director, Practical Action, Mr. Willie Tuimising, noted that there is a wide variety of livestock schemes operating which have created a proliferation, overlap and confusion in service delivery in the ASALs. Therefore proposals are urgently needed for a unifying framework on minimum standards, bearing in mind the great skills and knowledge of livestock keepers which are not necessarily reflected in formal educational attainments.

Workshop specific objectives:

- Identify strategies for addressing challenges to delivery of livestock services (health care, husbandry, etc) in ASAL areas.
- Discuss and understand the various existing livestock service delivery initiatives in the ASALs
- Identify ways to take account of best utilization of local skills and knowledge of livestock keepers which are not reflected in their formal educational attainments.
- Initiate stakeholder consensus building on the best practices for filling the service delivery gap in veterinary services in ASAL areas, ensuring the reporting and containment of disease outbreaks.
- Agree on the need for joint planning and way forward for improving and scaling-up successful models of service delivery.

Expected workshop outputs:

1. Appreciate the problems and uniqueness of the ASALs, and therein the opportunities to livestock service delivery.
2. Identify the major constraints especially resources required.
3. Identify unifying framework, synergies and complementing schemes for livestock service delivery.
4. Follow up action plan, identifying which other stakeholder(s) can come in, and with clear time lines.

PRESENTATIONS

1. KEY NOTE ADDRESS (Director of Livestock Production, *presented by Mr. Fredrick Aloo*)

Challenges to Delivery of Livestock Services in ASAL Areas

Introduction

- The ASAL covers about 80% of the country's total land area
- They are characterized by very fragile ecosystem with scarce and erratic rainfall
- They support over 25% of human population and over half of livestock population
- Pastoral areas have the highest incidences of poverty and lowest access to basic services
- The main economic activity is pastoralism
- Livestock population:- 8.9 million beef cattle, 5.9 million sheep, 7.7 million goats and 0.9 million camels
- Demand for beef is over 340,000MT per year
- Demand growth rate:-15,000MT per year in the next 5 years

Challenge:-

- How to sustain ASAL productivity, which is mainly livestock based, and still provide for increasing human population

ASAL Districts

- **North Eastern-**Mandera, Wajir, Garissa, Ijara
- **Coast-** Tana River, Taita Taveta, Malindi, Kilifi, Lamu, Kwale
- **Eastern-** Moyale, Marsabit, Isiolo, Meru, North, Mbeere, Tharaka, Mwingi, Kitui, Machakos, Makueni
- **Rift Valley-** Turkana, West Pokot, Baringo, Samburu, Transmara, Kajiado, Narok, Marakwet, Keiyo, Koibatek and Laikipia
- **Nyanza-** Kuria, Suba and Rachuonyo
- **Central-** Nyeri, Kieni Division, Parts Thika

Past ASAL Policy

- Government an ASAL policy that focused on
 - Resource conservation
 - Exploitation of productive potential
 - Integration of ASAL into national economy
- 1992 revised ASAL Policy to include
 - Emphasis on drought contingency
 - Involvement of communities in design, preparation and implementation of projects

Why Past Policies Have Failed

- Policymakers in government and other development actors lacked a good understanding of ASAL livelihood systems
- The inclusion of nomadic pastoral societies within the borders of states leading to restriction in mobility and movement
- Lack of involvement of ASAL communities in policy reform and participatory governance
- Neglect of participatory approaches in dealing with pastoral communities
- Use of blanket approaches to intervention and to policies without due recognition of the different livelihood systems
- Inadequate development and use of inappropriate technologies in pastoral development programme
- Adoption of sectoral approaches to development as opposed to integrated and multi-sectoral ones
- Inability to implement formulated strategies because of lack of voice and political influence

Some Key issues to Consider ?

- Different livelihood systems
- Historical marginalization and persistent myths about ASAL
- Wrong notion on pastoralists (Inefficient users of natural resources)?
- Communal land, over exploited, less productive than privately owned?
- Solution to periodic disaster is humanitarian aid?
- Vulnerability to natural disasters
- Previous development and uncoordinated aid initiatives

Issues and constraints/limitations

1. Livestock and Livestock Products

- Poor animal husbandry practices
- Inappropriate ASAL Land use policy
- Poor access to AI services resulting to use of bulls with unknown genetic value
- Limited research in production and health of camel
- Lack of technical skills on non conventional livestock by extension staff
- Lack of appropriate traceability mechanisms for livestock along the value chain
- Lack of inspectorate system to monitor quality of honey and other products
- Poor natural resource management
- Lack/poor drought management/mitigation strategies
- Conflict over resource use and insecurity
- Poor animal health and disease management
- Diminishing fish stock levels in the natural water bodies
- Poor infrastructure

Possible guidelines to challenges for ASAL development

- Inter-linkage with non ASAL areas: facilitate the development of strong linkages between ASAL and non-ASAL economies by developing communication infrastructure
- Provide an enabling environment- while the government will provide an enabling environment for development, communities are expected to chart out their development agenda
- Substantial investment- Adopt long term devpt approach as opposed to short term piece meal donor funded relief development projects
- Community participation in ASAL development-identification, planning, implementation and evaluation in all devpt projects
- Decentralize planning
- Diversification of livelihood systems
- Improve on ASAL land tenure and land use policy
- Provide services to mobile pastoralists and agro-pastoralists
- Reducing vulnerability to natural hazards
- Conflict management
-

Priority sectors for investment

Livestock development

- Improve animal health
 - Strengthen disease control measure in the region
 - Increase cross border disease surveillance
 - Support decentralized animal health approach
 - Revise legislation policy and handling
- Develop livestock marketing and handling infrastructure
- Promote access to credit

- Develop strategies to access external markets
- Develop physical infrastructure
- Water resource management and development
- Natural resource and environmental management
- Support to irrigated farming in the ASALs
- Reviewing land tenure systems
- Social and community development: Education, Health, Trade, Tourism and Industry
- Integration of Agro-pastoralism

Conclusion

- Expected results are:
 - -Local communities will benefit from participatory systems of local governance for improved natural resource management
 - -Vulnerability of poor populations to droughts, floods, food and human insecurity in ASALs will significantly reduce
 - -Provision of basic social services and infrastructure in water, education, roads, communication and human health as well as livestock production improved

2. AN OVERVIEW OF LIVESTOCK SERVICES IN ASALS

(By Ernest N. Mbogo – Training and Participation Development Expert, ASAL – Based Livestock and Rural Livelihoods Support Project, ALLPRO)

Delivery of Livestock Services in Arid and Semi Arid Areas

Introduction and background

The Arid and Semi Arid Lands (ASAL) of Kenya make up 84% of Kenya's total land surface, support about 9 million Kenyans (about 25% of the country's population), account for more than 80% of the country's eco-tourism interests as well as 50% of the livestock and 65% of the wildlife population. The arid a part of ASAL can mainly only support a low-density pastoral and nomadic mode of life, given its fragile nature.

The agro pastoral lands are capable of supporting mixed farming systems. Challenges in the ASAL are many and livelihoods are mainly dependent primarily on livestock keeping and their products, such as milk, blood, meat, hides and skins.

The livestock sub-sector in the ASAL accounts for 90% of the employment and more than 95% of the family incomes; most of the livestock slaughtered in the urban centers originate from the ASAL.

Drought is a common phenomenon in the ASAL and the pastoralists employ various survival mechanisms to cope with the fragile environment. Poverty is a permanent resident here and this is further aggravated by the low integration of the ASAL into the mainstream of the national economy, coupled with the frequent and persistent droughts and occasional floods.

On average, 60% of the ASAL population lives below the poverty line compared to the national average of 46%, with some of the poorest districts far exceeding this figure. These include Isiolo, Marsabit and Samburu. The ASAL is, thus, home to the poorest segments of the Kenyan society, who are trapped in a drought-plagued and hostile environment and are often marginalized from the mainstream of the country's economic activity.

Many efforts have in the past been put in place to enhance the livelihood of pastoral communities by provision of services and inputs to the livestock industry; mainly in disease control, provision of water, and support to marketing and grazing and drought management. However many of these interventions have not been sustained nor well coordinated.

In the last six years, the GoK has accorded the ASAL a high priority especially in the Economic Recovery Strategy (ERS) Paper of 2003-2008 where medium to long-term strategies were started. This was an amalgamation of the recommended strategies in the Poverty Reduction Strategy Paper (PRSP).

The importance of the ASAL to the attainment of Kenya vision 2030 is also emphasised with substantial investment targeted into the area for disease control, livestock marketing and value addition. The first medium term plan (2008 – 2012) of the vision aims at creating disease free zones near export markets through enhanced vaccinations and disease control measures, investment in livestock breeding, range improvement and marketing infrastructure.

Service providers in the ASAL include

- Many Government Ministries (Ministry of Livestock Development, Agriculture, Regional Development, Northern Kenya & other Arid Lands, Cooperative Development & Marketing, Water & Irrigation) and projects (ALLPRO, NALEP, KAPP, ALRMP, Njaa Marufuku, Regional Development Authorities)
- Regional and International Organizations and projects
- National and international NGO
- Community based organizations

Observations

- Pastoralists depend on livestock (cattle, sheep, goats and camels) for over 90% of their livelihoods
- Most livestock keepers still rely on their traditional knowledge for survival
- Livestock keepers usually buy drugs and treat their animals despite the fact that they know little about drug residues and withdrawal periods for products
- Livestock keepers carefully take into account water and forage availability in making decisions on what to do or where to go
- There is regular collection of Early Warning information by many stakeholders mainly for use by Government and International organizations; local communities' role is only as a provider of information.

Main Challenges/Gaps in service delivery

- Coordination of interventions at all levels (planning, implementation, reporting)
- Donor apathy brought about by misallocation of resources.
- Late, uncoordinated and disjointed response to emergencies (drought, diseases, floods); e. g the last outbreak of PPR – it took one year from outbreak to start of vaccinations.
- Poorly manned and funded extension services
- Poor infrastructure (markets, stock routes, holding grounds)
- Insecurity
- Most organizations run programmes not as per wishes of local people (e. g programmes fit into the planning cycles of the service providers and not production cycles of the livestock keepers)
- Livestock diseases remain a challenge to livestock production and marketing (the international boundaries that allow free flow of livestock in and out of Kenya), lack of adequate surveillance. The main livestock kept by pastoralists are sheep, goats, cattle, camels. Delivering health services to all the livestock remains a huge challenge considering that most of the livestock keepers are nomadic while most trained personnel are town based. It is even more difficult for the camels which move furthest from other livestock and watering facilities even out of reach of trained animal health workers.
- High running costs of facilities being introduced – mobile labs that rely on diesel generators – unsustainable.
- Lack of effective feedback on early warning information back to communities.
- Inadequate follow up, and scaling up of successful and best practices

- Global environmental change leading to catastrophes like floods and disease outbreaks.

Opportunities

- Nomadic Pastoralism is a way of life for the pastoralists of Northern Kenya. Therefore innovative strategies aimed at solving their problems will find receptive communities.
- Kenya vision 2030 and the first medium term plan 2008-2012 – recognizes the need to create disease free zones near export markets. There is need to integrate this strategy from the production areas and thus addressing needs of pastoralists
- The Agricultural Sector Coordination Unit housed at the Ministry of Agriculture that brings together sector Ministries.
- Livelihood diversification – (livestock eco-tourism, bee keeping, herbs, gums and resins, non conventional livestock species, use of prosopis as an animal feed)
- Encourage development of IT service centres to take advantage of the increased band widths with the arrival of the fibre optic cables to gainfully empower the community.
- Ecotourism especially in the unexploited pastoral areas of northern Kenya
- The unexploited potential of the hides and skins industry
- Irrigation/water harvesting
- Fodder conservation (especially hay)
- Global environmental changes like global; communities have basic ITK on survival.

Way forward

Pastoralism as a way of life faces major challenges due to frequent droughts, disease outbreaks, low investment and uncoordinated efforts.

Need for innovative disease control strategies; note that current interventions are usually planned in Nairobi and executed without consideration of the pastoralists' needs and production cycles.

- Confidence building among stakeholders especially on resource allocation.
- Greater recognition and use of traditional knowledge.
- Enhanced Early Warning systems with an effective inbuilt feed back mechanism and support to timely interventions.
- Enhanced coordination with the pastoral communities' needs in centre stage.
- Scaling up of best practices

PLENARY DISCUSSION:

The participants were given the opportunity to respond and raise issues from the two presentations and the following issues emerged:

1. **Donor Trends-** Major donors are focusing mainly on the high potential areas or “investing in growth areas” and ignoring the ASAL or poor areas where it is perceived that the resources will not make any returns. The theory is that the growth areas will make more money and develop the poor areas!
2. **Policy-** Policies on the ASAL areas have failed in the past since they were formulated in non-participatory methods. They have always assumed that the pastoralists are poor! This is a misconception, the pastoralists are only challenged by the land use system and this is where gaps should be identified and addressed in a participatory way.
3. **Subsidies-** While other farming production enterprises benefit from government subsidies the pastoralists have been ignored all through. This should be looked into.
4. **Implementation-** There was a feeling that agencies had dwelt so much into pushing for policies, while actually they should be emphasizing on implementation. An all-

inclusive implementation framework, with participation of all service delivery agencies, should be the target, building up synergy and complimenting each other.

5. **Partnerships-** It was clearly observed that there was disharmony even within the government ministries and departments and hence the need for “**Public to Public partnership**” in implementation of livestock service delivery schemes. This will mean there will be improved coordination and regulation.
6. **Resources-** The ASAL programmes are always under-resourced.. Part of this is due to the stigma attached to these areas that they are insecure and harsh and might not even be able to utilize huge resources. This needs to be changed. Allocating more resources to these areas, making the areas secure and even offering incentives to private investors (e.g. Private practitioners) will change the equation considerably.
7. **Emergency response fund-** The department of Veterinary Services should be allocated an emergency response fund in order to cope with disease outbreaks. The recent outbreak of PPR must have led to huge losses which could have been avoided.
8. **Sustainability-** For sustainability, the service delivery should be holistic, where all stakeholders are involved. An integrated approach should be emphasized. **Short term projects-** These were likened to “short scattered rains, which leave the place worse than it was before. They lead to confusion and should be avoided as much as possible.

CASE STUDY

Current Situation of Community Based Animal Health Workers in Samburu District, Kenya: Field study conducted in May 2008 looking at long term impacts of deployment of Community Based Animal Health Workers

Presenter: Stuart Coupe, Practical Action Head Office, UK.

- 58 households surveyed
- 36 CBAHWs surveyed
- 4 focus group discussions around Maralal and Baragoi villages.
- Task completed in 5 days by an 8 member research team

Similar research has been conducted in Zimbabwe, Peru, Sudan and Bangladesh. National and international best practices and policy recommendations will be published

Situation of Extension – in developing countries

- Movement from subsistence to semi-commercial agriculture, cash economy emerging in villages.
- Scarce public resources to address modernisation of agriculture.

Combinations of formal and informal extension systems are needed to address resource gap.

- Practical Action developed Rural Community Extensionist concept – recruited from amongst poor villagers and sustaining a livelihood by earning small fees from fellow villagers.
- Successful experiences in Kenya and Peru in 1990s with Community Based Animal Health.
- Zimbabwe close relations developed between small scale demonstration farmers and AGRITEX (Extension Ministry)
- Adapted for Bangladesh in Food Production Project in 1999

Four types of Community Extensionist emerged over a decade in Peru (de la Torre, 2004), and we find that this has also happened in Bangladesh.

- 1) **Demonstration Farmer:** Farmers, youths or adults, trained in the management of new productive techniques, so that they put them into practices and support their neighbours to do so.
- 2) **Rural Entrepreneur :** Young farmers (20 to 30 years old) trained to establish agricultural enterprises. In this case there is an attempt to generate wealth and employment.
- 3) **Farmer Technician:** preferably young, trained to work as farming technicians acting as a link between professionals in the institutions and peasant families.
- 4) **Farmer Trainer:** trained to provide capacity building and technical assistance to other peasant farmers, through more formal exchange of knowledge. Trained not only on technical aspects but also on educational and cultural style.

Issues Arising from the case study:

1. Training- The group was informed that 20 new CBAHWS are being trained in Samburu by Resource Project Kenya, an NGO working in the area.

It was however reported that some NGOs changed their mandate and the CBAHWS were not handed over to any institution hence they are not being supervised and are even straying to areas not in their mandate.

The training of CBAHWS should be broadened to cover extension, disease control and conflict resolution. This will improve disease reporting where it was noted that the pastoralists actually have no incentive to report disease outbreaks since normally they are “punished” with quarantines and closure of markets.

At this juncture it came out clearly that the implementation of the **CBAHWS standard training manual** has not been institutionalized, and very many implementing agencies do not even know it exists!

2. Disease Control- It was favorably reported that the CBAHWS in Samburu played a major role in reporting the recent outbreak of PPR, and even participated in mobilization and vaccination campaigns.

3. Linkages- The linkages between the DVO and the community based service delivery should be strengthened. This will improve standards and regulation.

The drug suppliers should also be linked to the veterinary service providers and quality assured through a strong drug inspectorate network. To this end the DVOS are soon to be gazetted as Drug inspectors under the Pharmacy and Poisons act. The ultimate aim is to empower veterinary regulators to take their responsibility in regulation of Veterinary drugs.

4. Infrastructure development- With the creation of the new Ministry for ASAL areas and the creation of new districts, there should be improved infrastructure especially the road network which will improve communication.

The pastoralists have already changed the traditional attitude towards livestock, and are now viewing this as an enterprise- cash economy. This should now be able to support privatized professional services in these areas.

5. Sedentarised Pastoralism- It was observed that this trend could change the modes of service delivery. It will be easier to monitor and regulate service delivery. Drug shops can also be set up easily as well as setting up institutions/associations as exit strategies for sustainability. Here reference was made to the FARM Africa project in Meru and Mwingi where the vets, AHTs and CBAHWS have formed associations.

6. Stakeholder Roles- The roles of the various stakeholders should be defined.

While the DVS has resource limitations, the supervision and regulatory role cannot be over-emphasized.

The DVS should also offer back stopping services to the CBAHWS, especially in light of changing drug brand names and also new and emerging diseases.

The government should also consider setting up an institution for training technicians in the ASAL and upgrading the existing CBAHWS.

7. Decreasing number of CBAHWS- This was blamed on the following:

- Natural attrition
- Insecurity, a few have been killed.
- Some have taken leadership roles and become councilors, Assistant chiefs

8. Tanzanian Model

At this point one participant presented the Tanzanian model of Animal health service delivery where training of new CBAHWS was strategically stopped

1. No new CBAHWS are trained
2. The old ones upgraded through a one year certificate course
3. Retraining of the existing ones so that they broaden their skills.
4. Facilitating the Animal Health Technicians with transport and cold chain for drugs.
5. Established a district drug fund where the DVO is a signatory.

CRITICAL ISSUES

With all these issues emerging from the presentations the participants were asked to brainstorm and come up with priority issues in relation to **community based service delivery initiatives** that need to be addressed.

The following were listed:

- Relevance
- Policy and institution support
- Privatization of services
- Continuing education for CBAHWS, and their responsibility.
- Standards and Quality control
- Sustainability, Viability.
- Lessons learnt
- Harmonize policy and best practices.
- Resource allocation disparity
- Coordination, information availability and networking.

The above issues were consolidated into three broad discussion points and subjected to group deliberations.

1. Quality Control and Standards
2. Changing contexts in ASAL
 - Privatization
 - Arising opportunities
3. Lessons Learnt especially on Coordination.

Group outputs were then presented in the plenary for further inputs or adoption.

Group 1- Quality Control and Standards

The identified the following as issues which require quality control and standards:

1. Drugs
2. Skills for CBAHWS (Training)
3. Level of service
4. Service coordination
5. Policy
6. Marketing of livestock and their products.

Drugs:

1. Only registered drugs should be accessible to service providers. The drug inspectorate in the DVS should be strengthened and coverage widened to cover the whole country. The DVOs should be empowered to carry out drug inspection.
2. Farmers and service providers should be educated on drug accessibility and usage.
3. Drug Company's should package drugs to conform to the ecological areas. For example in the ASAL areas it is insensitive to have labels talking about storage of drugs at room temperature! The registration authority should enforce these requirements.
4. The Veterinary department should be empowered to control veterinary drugs. To this end the DVS is to soon gazette all the DVOs as drug inspectors under the Pharmacy and Poisons act.

Training:

This covers capacity building for the various cadre of livestock service providers including Veterinary surgeons, Animal health technicians, CBAHWS, and farmers.

1. Curriculum should be developed for each level and with emphasis on continuous professional education.
2. Develop specialized curriculum to mainstream services in the ASAL at all levels.
3. Support decentralized training, for example, attaching students to the ASAL areas, and even building institutions for training the various cadre in the ASAL areas.
4. Provide incentives to professionals taking positions in the ASAL areas.

Level of service:

1. Define the roles for the different cadre of service providers and match it with quality control. Ensure continuous professional education.
2. Integrate indigenous knowledge into livestock service delivery.
3. Strategic setting up of diagnostic units to support accurate and timely diagnosis of diseases in the ASALs.

Coordination of service delivery:

1. Lobby for improved budgetary allocation for the ASAL areas. The budgeting process has now changed and the District work plans translate into budgets. The process should be made open and participatory to ensure that funds are directed to the right activity.
2. Improve and strengthen the DVOs coordination capacity at the district level.

Policy:

1. Lobby for the review of livestock policies to reflect on the ASAL priorities at the highest level..
2. Prioritize livestock agenda within the Ministry of Northern Kenya and other ASAL areas.
3. Provide attractive incentives for those serving in the ASAL areas.

Marketing of Livestock and their products:

1. Empower and support the national Livestock marketing Information System to process and disseminate market information preferably on weekly basis.
2. Influence the positioning of digital villages to improve accessibility to market information.
3. Strengthen the Early warning systems for timely and accurate information on possible disease outbreaks.

Group 2- Changing Contexts in ASALs**What are the changing contexts?**

- Change in policy- There is now a new ministry for ASAL areas hence an new avenue for recognition and lobbying.
- Increased sedentalized Pastoralism
- Expanding cash economy
- Declining number of CBAHWS
- Increasing conflicts
- Climatic changes- drought, desertification
- Declining natural resource base.

What are the Opportunities?

- Increased accessibility of sedentary pastoralists; e.g. group supervision and monitoring, easy mobilization.
- Expanding cash economy creates an environment for promotion of privatization of livestock markets.
- If the decline in number of CBAHWS is as a result of the diminishing relevance then there is opportunity for upgrading.
- There is opportunity to study the relevance of CBAHWS and learn from the Meru model as a project exit strategy the Meru animal health workers group was formed. This can be strategy can be tried in new areas.
- Opportunity to broaden CBAHWS responsibilities to include, hides and skins improvement services, dissemination of market information, conflict resolution etc.
- Opportunity to revisit the selection process.
- New Ministry creates an opportunity for lobbying and development of other livestock services e.g. marketing, provision of water, etc.
- Changing environment results in new diseases hence the need for upgrading of animal health services.
- Opportunity for disease cycles management; strengthen disease control by use of the early warning systems, and establishment of a disease control fund.

Recommendations:

1. A study on the declining CBAHWS presence and possibility of piloting models that have worked.
2. Engage the new Ministry with the aim of recognizing other service providers.
3. Strengthen disease early warning systems.
4. There is need for skills development in enterprise management.
5. Need for working in numbers for ease in lobbying.
6. Need for Business service providers for the sector- Explore possibilities accessing funds such as ALLPRO, constituency development fund (CDF), Youth fund, Women fund etc.

Group 3- Lessons learnt especially on coordination.

1. Livestock services delivery systems:
 - Lack of legal recognition for some cadre of the service providers
 - Lack of institutionalization of the standardized CBAHWS training manual

The issue here is do we continue fighting for policy change or should we change the strategy or the approach. Maybe should consider borrowing the success stories of FARM Africa in Meru, and any other best practices.

2. Information sharing:
 - Sharing of information on lessons learnt

- Documentation of best practices
3. Widen scope of participation of stakeholders to include research bodies, parastatals and regulatory bodies.
 4. Coordination: The livestock service delivery lacks coordination- the DVS should come clear on the status of the CBAHWS.
 5. The policy related issues raised are also moved forward in a non coordinated manner. All stakeholders should be involved to give a particular issue weight.
 6. Work on Policy- This should widely be shared among the stakeholders and maybe grasp the opportunity of the Grand Coalition to push the desired recommendation forward.
 7. As a way forward:
 - Scale up the efforts to have some of the missing points or issues included in the broader livestock policy. This will require identification of an organization to lead the process. The group suggested Food and Agricultural organization (FAO).
 - The lead convener can work with other key players including SNV, ALMP Phase 2, Ministry of Northern Kenya and Other ASAL areas among others.

The Kenya Association of Livestock Technicians (KALT) informed the participants that the Animal Technicians Bill is at an advanced stage and there might be an opportunity there to include some issues.

The participants also agreed that any implementation strategy must be all inclusive.

WAY FORWARD

After much deliberations and consultation among the participants the following was agreed as the way forward to the next step.

1. Form a livestock services delivery initiative working group. This small group of about seven members, after receiving the proceedings of this meeting, will convene, discuss and agree on the best way forward and report back to other stakeholders.
2. The following agreed to be members of the working group:
 - VSF-SUIS
 - Practical Action
 - KALT
 - ALLPRO
 - Resource Project Kenya (RPK)
 - LifeNetwork
 - FARM Africa/CAHNET

Annex 7: Household Questionnaire – Samburu Kenya

Identification of Household	
Name of Respondent _____	
Name of Village _____	<input type="text"/> <input type="text"/>
Name of District / locality _____	<input type="text"/> <input type="text"/> <input type="text"/>
Household Code _____	<input type="text"/> <input type="text"/> <input type="text"/>

To be completed by Interviewer	Date of Interview
Name of Interviewer _____	Day <input type="text"/> <input type="text"/>
Signature _____	Month <input type="text"/> <input type="text"/>
Comments:	Year <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text"/>

Introduction to interviewee

Hello, I work for ITDG). Your community benefited from our interventions in previous years. We want to learn about the work of animal health workers on which aspects have benefited the most to yourself and other community members and which had least benefit so that we can continually improve our projects in the future.

A HOUSEHOLD PROFILE

Now I would like to ask you some general questions about your household members.
 Lets start with yourself **(i.e. the person named)**

[A1] Are you the head of the household?

Yes 1	No 0
----------	---------

If no what is your relationship to the household head?

--

(A8) Are you still a member of the same household as you were in year 2000?	Yes 1	No 2
(A9) Are you a permanent resident of this village or an IDP?	Permanent 1	IDP 2

B.

C. COMMUNITY EXTENSION

(C1) Is there a paravet or herbalist in your area who serves your community?

Herbalist 1	Paravet 2	Both 0	None 3
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(C2) If yes, have you ever received any information, services, advice or inputs from him or her? (circle all relevant)

Paravet 1	Herbalist 2	Neither 0
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(C3) In the last 12 months, how many times did you receive information, advice or inputs from him or her?

PARAVET 01	Herbalist 02
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(C4) Have you ever experienced any problems in getting information, advice or inputs from the Paravet/ Herbalist?

Yes 01	No 02
-----------	----------

If yes, describe.

What is the most important day to day source of livestock inputs and advice? If you get from more than one source, please give the most important or your preferred one.

Activity	Before 2000	In the last 12 months	
(C5) Services relating to livestock			Codes: Sources of advice/services 1 = Government extensionist 2 = Paravet 3 = other herders 4 = shop keepers / dealers 5 = NGO / UN agency 6 = no source of input or advice 7 = Herbalist 8 = I don't know 9 = other (specify) 1.
(C6) Advice on Livestock			
(C7) Information about market prices generally			

(C8) Have you received any service on livestock from a paravet? If yes, please rate.

(C9) Have you received any service on livestock from a government agent? If yes, please rate.

(C10) Have you received any service on livestock from a herbalist? If yes, please rate.

(C11) Have you received any service on livestock from a CSO? If yes, please rate

Used		Relevance/Quality			Availability		
Yes	No	Good	Average	Poor	Good	Average	Poor
1	0	1	2	3	1	2	3
Yes	No	Good	Average	Poor	Good	Average	Poor
1	0	1	2	3	1	2	3
Yes	No	Good	Average	Poor	Good	Average	Poor
1	0	1	2	3	1	2	3

C11 Do you pay for inputs from the paravet/herbalist? I am just talking about inputs like remedies, drugs or vaccinations, not advice. (circle one)

Always 1	Sometimes 2	Never 3
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C12 Do you pay for **information** only from the paravet/herbalist, when you are not paying for inputs, By information I mean skills, advice on how to apply treatments? (circle one)

Always 1	Sometimes 2	Never 3
-------------	----------------	------------

C13 Do you pay for **services** from the paravet/herbalist? I am talking about delivery, minor operations., treatment of fractures etc. (circle one)

Always 1	Sometimes 2	Never 3
-------------	----------------	------------

D. HOUSEHOLD INCOME AND ASSETS

4.1.What type of house do you live in?

- 4.1.1 Makeshift hut
- 4.1.2 Permanent hut/thatch
- 4.1.3 Permanent hut/ bark
- 4.1.4 Permanent hut with iron roof
- 4.1.5 Corrugated iron house
- 4.1.6 Cement walls/floor/corrugated iron roof
- 4.1.7 Brick house

Now	2000

(D5) What is your principal source of lighting?

Wood 01	Kerosine 02	Solar 03	Electricity 04
Wood 01	Kerosine 02	Solar 03	Electricity 04

(D6) What was your principal source of lighting before 2000?

(D11) Overall, has the health and productivity of your animals increased, decreased or stayed the same since 2000?

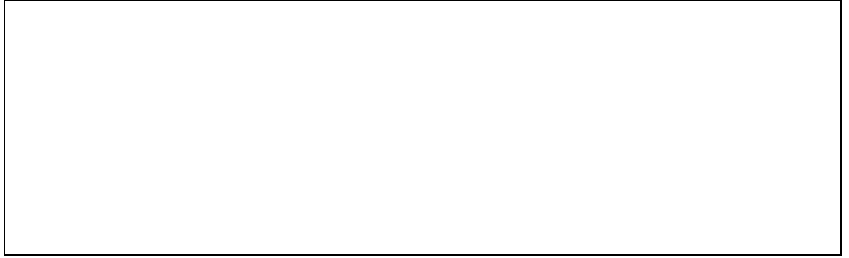
Increase 1	Same 2	Decrease 3	No animals 0
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(D12) Please explain your answer.

(D13) In general, has mortality of your animals increased, decreased or stayed the same since 2000?

Increase 1	Same 2	Decrease 3	No animals 0
---------------	-----------	---------------	-----------------

(D14) Please explain your answer.



E. COPING WITH DISASTERS

(E1) If there is a bad drought next year, do you feel that you will be more or less resilient to its effects now than you were before 2000, or the same?	Yes 1	Same 2	No 0
--	----------	-----------	---------

(E2) Please explain your answer.

--

(E3) Do you think you are better able to cope with the effects of a conflict situation than you would have been in 2000?	Better 1	Same 2	Worse 0
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(E4) Please explain your answer.

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F. HOUSEHOLD INCOME

Next, I'd like to ask you how your household makes its living. In the last 12 months

	Now	2000		
What is your primary source of cash income ?				
What is your second source of cash income?				
What is your third source of cash income?				
How many sources of cash income in the household in total (including the above)?				
What is your total cash income from livestock?		More 1	Same 2	Less 3
<ol style="list-style-type: none"> 1. Live Camel sales 2. Live goat sales 3. Live cattle sales 4. Live sheep sales 5. Chicken sales 6. Maize 7. Honey 8. Herbs 9. Camel milk 10. Camel meat 11. Camel hides and skins 12. Cattle milk 13. Beef 14. Cattle skins 15. Hides 16. Goat milk 17. Goat meat 18. Mutton 19. Sheep milk 20. Eggs 21. other 				

G. COMMUNITY EMPOWERMENT

(G1) Has any member of your household been a member of a community organisation or committee within your village (circle all you are a member of)

Sub location dev comm 1	Dip comm 2	Grazing committee 3	None 4
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(G2) If other, please name all

--

(G3) What was been their role or involvement in those organisations? *(describe all)*

--

(G4) How does involvement in those organisations make a difference to your household?

--

(G5) Are women in your household participating more, the same or less in community decision making now that they were before 2000?

More 1	Same 2	Less 3
-----------	-----------	-----------

(G6) If more, what impact has this had on the woman inside the household (positive or negative)?

--

H. SELF-ASSESSMENT OF HOUSEHOLD SITUATION

Considering all the questions discussed in this interview, how would you describe the situation of your household now and before t2000t?

Assess from the response whether the interviewees situation has got better or worse over time.

(H3) Why has your situation got better / worse over time?

(write response)

(H4) Can you tell me the **SINGLE** most important difference that the presence on an animal health worker made to your household or community?

(please describe in detail)

Annex 8: Animal Health Worker Questionnaire Kenya

Identification of CBAHW	
Name of Person Interviewed _____	<input style="width: 30px; height: 20px;" type="checkbox"/>
Name of Village _____	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>
Household Code	<input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>

To be completed by Interviewer	Date of Interview
Name of Interviewer _____	Day <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>
Signature _____	Month <input style="width: 30px; height: 20px;" type="text"/> <input style="width: 30px; height: 20px;" type="text"/>
Comments:	Year <input style="width: 20px; height: 20px; text-align: center; border: 1px solid black;" type="text" value="2"/> <input style="width: 20px; height: 20px; text-align: center; border: 1px solid black;" type="text" value="0"/> <input style="width: 20px; height: 20px; text-align: center; border: 1px solid black;" type="text" value="0"/> <input style="width: 20px; height: 20px;" type="text"/>

1. EXTENSIONIST PROFILE

I would like to ask you a few questions about yourself...

1.1 Relationship to household head <i>(write code)</i>	1.2 Marital status				1.3 Age <i>(write age in completed years)</i>	1.3 Gender		1.4 Have you been to school		1.5 Years of school completed <i>(write number or 00 if none)</i>
See relationship	Married 01	Single 02	Widow/er 03	Divorced 04		Male 01	Female 02	No 00	Yes 01	

Codes: Relationship to household head

- 01 = household head
- 02 = wife
- 03 = son / daughter of head or wife
- 04 = son-in-law / daughter-in-law of head or wife
- 05 = grandson / granddaughter of head or wife
- 06 = father / mother of head or wife
- 07 = brother / sister of head / wife
- 08 = other relative of head/ wife
- 09 = adopted
- 10 = non-relative / servant

2. TRAINING

2.0 Did you receive any other kind of training before your basic paravet training	01 No	02 Yes	Describe				
2.1 What kind of animal health training did you receive	01 Paravet	02 Herbalist	03 Herbalist and Paravet				
2.2 How many days of CBE training have you received from ITDG in total (including refresher training)	Enter number of days						
2.3 Why did you decide to accept the training? <i>Circle as many as mentioned. (No prompt)</i>	Income 01	Skill 02	Network 03	Social Status 04	Knowl edge 05	Duty to community 06	Other 07
	Detail other						
2.4 What type of support did you receive immediately after the training? (Give examples) <i>Circle all that are mentioned</i>	Drugs kit 01	Bicycle 02	Vet equip 03	Cash payment 04	Other 05	No support 06	
2.5 If other, what other type of support did you receive?							
2.6 Have you received any training from other other orgs besides ITDG	No 00	Yes 01	If Yes ⇒ Describe				
2.7 Did you participate in any exposure visits (ITDG, other org, own initiative)	NO 00	Yes 01	2.11 If yes state value to your work	Very 01	Quite 02	Not 03	
2.8 Have you been involved in training other CBEs?				NO 00	Yes informally 01	Yes formally 02	

3. DROPPING OUT

3.1 After the training did you start working ?	00 No ⇒ Qn 3.2	01 Yes ⇒ Qn 3.3
3.2 If not, why not? (end of questionnaire)		
3.3 If yes for how long? (Years)		
3.4 Are you still working now?	00 No ⇒ Qn 3.5	01 Yes ⇒ Qn 4.1
3.5 Why did you stop working?		
3.6 Is there anything which caused you to start working again?		

If stop working after one year, then end here. Otherwise continue.

4. COVERAGE

4.1 How many villages do you cover? 4.2 What is the distance to your furthest away client, in kilometres 4.3 How often do you provide a service to this most distant client

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4.5 In what ways have you attended the herders (if other please specify) <i>Circle as many as appropriate</i>		Regular routes around the village or settlements 01	Whilst selling inputs 02	In the market place 03	Herder contacts you 04	Phone consultation 05	Emergency call out 06	O t h e r 0 7
		If other specify here.						
4.6 How much service do you give the poorest section of the community Ask respondent to choose one, without prompting. <i>If necessary discuss with an example of a poorest family in the local context</i>		Poor are my priority for service 01		The poor and the non-poor get equal service 02		I prioritise those with more ability to pay 03		
4.7 What transport do/did you use to reach the farmers? <i>Circle as many as appropriate</i>								
Walk 01	Bicycle 02	Public transport 03	Donkey 04	Other 05				
Please fill the following table with respect to your most recent year of service								
4.12 Please give examples of non cash payments								
4.13 If the herders say they cannot pay for the service, what is your practice. Please give some examples.								

5.1 What type of service do you provide?	No 00 Yes 01	5.2 Do you charge?	Frequency of operation per month				
Livestock Advice							

5.4 Have you developed any new practice or treatment technology for use by yourself and others?	00 No	01 Yes
5.5 Describe		

5.6 If you come across a technical/disease problem you are not familiar with, where do you get information?	No 00 Yes 01 (Indicate as many as apply)	5.8 Do you pay for the information? No 00 Yes 01	5.9 How satisfied are you with the information they give				
Other CBAHW	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
Friends / neighbor / relatives	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
Government staff	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
NGO	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
Shopkeeper	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
Herbalist	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
Schoolteacher	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
Bookseller	No 00 Yes 01	No 00 Yes 01	01	02	03	04	05
Other (Specify)		No 00 Yes 01	01	02	03	04	05
CODES How satisfied are you with the information? 01 Very 02 Quite 03 Average 04 Quite dissatisfied 05 Very dissatisfied							

6. INPUTS AND SUPPLIES

6.1 What is your source of inputs and supplies for your work as CBAHW?	6.2 Do you pay for these supplies			6.3 Do you experience difficulties obtaining these inputs					
Other CBAHW	01	02	03	01	02	03			
Government	01	02	03	01	02	03			
NGO	01	02	03	01	02	03			
Company distribution	01	02	03	01	02	03			
Shop	01	02	03	01	02	03			
Travelling dealer	01	02	03	01	02	03			
Other (specify)	01	02	03	01	02	03			
	01 No 02 Partly 03 Yes			01 Always 02 Sometimes 03 Never					

7. REMUNERATION/DEDICATION

7.1 What is your level of dedication. <i>Circle one</i>		Full time occupation 01		Main but not only occupation 02		Secondary occupation 03	
7.4 Have you been hired by other people or organisations for your existing extension work?		No 00	NGO 01	Govt 02	Another community 03	Input supplier 04	Other 05
Name of People/Organisation(s)							
7.5 What were the benefits?		Single payment 01	Regular payment 02	Kind 03	Honour 04	None 05	

8. SUSTAINABILITY/MOTIVATION

8.1 Are there any disadvantages or disadvantage in being a CBAHW	
8.2 What have you done to overcome these challenges?	
8.3 What was/is your motivation to keep on working as a CBAHW?	
8.4 What in the your opinion are the characteristics of a good CBAHW?	

END

Annex 9: Semi Structured Interviews with Extensionists

Identification of Household	
Name of Person Interviewed _____	<input type="checkbox"/>
Name of Village _____	<input type="checkbox"/>
Name of Department _____	<input type="checkbox"/> <input type="checkbox"/>
Name of Region _____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Household Code	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

To be completed by Interviewer	Date of Interview
Name of Interviewer _____	Day <input type="checkbox"/> <input type="checkbox"/>
Signature _____	Month <input type="checkbox"/> <input type="checkbox"/>
Comments:	Year <input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 0 <input type="checkbox"/>

TRAINING

1. Why do you think you were selected for extensionist training?
2. Was there an adequate balance between learning practical skills in the field, and with classroom based learning?
3. What aspects of the learning have you communicated the most to farmers?
4. What part of the training was not useful?
5. Did you face any difficulty of learning/understanding in the training because of the language/vocabulary/ways of teaching used. Please explain.
6. Once you started working did you notice any gaps in the training that ought to be filled.
7. How have you updated your knowledge and practice to cope with emerging changes?
8. Did you receive a certificate, and if so what were the benefits
9. If no what benefits would it bring.

TECHNICAL

10. Describe the most complex technical procedure you perform
11. Describe any technical innovations that you have noticed farmers have developed as a result of your advice/services
12. How do you know that your advice/treatment had been effective?
13. Have you ever given advice/inputs that didn't work very well? What was it? How did you deal with that situation?

CLIENTS

14. Who are the priority clients for your service? (we can prompt by giving options such as Kin Friends Rich Farmer etc) Why?
15. If a farmer is not able to pay (in cash or kind), what do you do?
16. Are there times when you do not want to provide a service to client? Why?
17. Have you observed in some cases that farmers have learned from you and as a result no longer require your services? What is your approach in this case?

COMPETITION/COLLABORATION

18. Are there other types of service providers offering a similar service. Who are they, in what areas do they overlap with your service and if so how does this affect your operation as an extensionist?
19. Do you face any problems from government due to legislation or regulations which aim to limit your activities?
20. Do you collaborate with other community extensionist. How? When? How often?
21. Do you belong to a community extensionist organization/network?
22. If yes, what are the benefits
23. Do you collaborate or benefit from linkages with government or private agriculture service providers

MOTIVATION

24. What are the disadvantages of being a CBE?
25. What have you done to adapt to these challenges?
26. Is there anything that would cause you to cease working as a CBE?
27. What is your motivation to keep on working as a CBE?