

Livestock: a blessing or a burden?

by Dr Nigel Poole



Paul Biggiam / Tearfund

Rural smallholder farmers, like Lorenzo Rodas Ischalon from Peru, rely on livestock for their livelihoods.

Not everyone agrees on what role livestock should play in development today. Let's think about some of the evidence to help us answer the question of whether livestock are a blessing or a burden. First, what do we mean by livestock, and then, what are the problems that arise in livestock production?

'Livestock' generally refers to domestic animals, which are often divided into groups. The principal groups of animals are cattle, buffaloes, camels, sheep, goats, pigs, horses, mules, donkeys, rabbits, chickens and other fowl (eg guinea fowl, ducks, geese, turkeys, ostriches). Other groups are common in specific geographical regions: guinea pigs, fur animals (eg mink), deer and reindeer, llamas, alpacas, vicuñas and guanacos. Usually we do not include fish or bees.

Conflict and migration

Since ancient times, the use of natural resources by livestock has been a source of

conflict. The Bible records the separation between Abraham and Lot *'because the land could not support them while they stayed together'* (Genesis 13:6) and also recounts a later quarrel between the herdsmen of Isaac and those of Abimelek over water resources (Genesis 26:19-20).

Competition for land and water resources, often among livestock-keeping pastoral peoples, is at the root of some conflicts today in the drylands of Africa. Leading up to the independence of South Sudan in 2011, the indigenous Nuba tribe in Southern Kordofan complained about the damage caused by the camel-herding Shanabla tribe who had been forced to

migrate south in search of grazing land. Conflict followed.

Land, soil, water and deforestation

My first encounter with the problems caused by livestock production was the evidence of land degradation I saw in Southern Africa where I began my overseas work as an agricultural scientist. The soil of Swaziland was being washed into the Indian Ocean at an alarming rate. We now know that overgrazing is a big problem in many farming systems and loss of vegetation over large areas probably leads to negative impacts on rainfall patterns.

In large parts of Central and South America, forests have been cut down to increase the pasture available for large-scale ranching to provide beef for international markets. Such deforestation contributes

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Footsteps

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Footsteps is free of charge to grassroots development workers and church leaders. Those who are able to pay can buy a subscription by contacting the Editor. This enables us to continue providing free copies to those most in need.

Readers are invited to contribute views, articles, letters and photos.

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to environmental damage, including loss of biodiversity and the presence of greenhouse gases in the atmosphere. Often, the benefits are only financial, short-term and are only shared by a few people.

Research from across the world (including Colombia, Niger and Somalia) has shown that it is very important to use local knowledge to manage pastures in a sustainable way. It suggests that livestock grazing should be balanced with other uses of the land, such as growing crops, housing, pathways, forests etc.

Livestock often consume feed grown on land suitable for human food production, and sometimes compete for food that can be used for humans. Livestock convert feed into food in an inefficient way compared to crops. Much research also shows that waste, including livestock manure and gases from ruminants (particularly from intensive production systems) causes pollution of water resources and is a significant contributor to greenhouse gases from agriculture.

What are the benefits?

Are livestock worth these costs? Part of the answer is that livestock provide income and can improve people's health and the environment. In some regions there may not be an alternative way of making a

living. The principal economic outputs of livestock production are:

- human nutrition: meat, milk and eggs
- non-food products: fibres such as wool, hair and silk; hides, skins, feather, furs, bones and horn; manure for fertiliser
- feedstuffs for other animals: meat, bone and blood meal
- other functions: animal traction and human transport, recreation, social exchange (ceremonial gifts etc.) and welfare and economic security.

Livelihoods, food and waste

Many of the world's poorest people live in rural areas of developing countries and most keep livestock which are among their most important economic assets. Livestock production is one of the fastest growing enterprises in developing countries, already accounting for a third of agricultural output. According to the World Bank, in Pakistan, livestock now account for almost 40% of agricultural production and about 9% of the total national economic activity.

This scale of industry is only likely to increase with the growing demand in developing countries for livestock products, which is expected to double over the next 20 years. Livestock production could provide several hundred million people with the opportunity to raise themselves out of poverty.



Livestock products can meet important dietary needs. Many vegetable foodstuffs help to provide a balanced diet, but eggs, meat and milk provide concentrated sources of some important nutrients, particularly for the diets of young children and breastfeeding women. Small livestock in both rural and urban environments can make a big difference to nutrition and health in poor communities.

Livestock can also consume agricultural and household waste products, converting them into human food. Manure from livestock improves soil fertility, and can boost the local economy through biogas production.

Using animals helps reduce the physical hard work of agriculture which is often undertaken by women, and helps with personal transport. And more than that, hides and wool and other products have multiple uses in the home, for clothing, for craftwork and for sale to larger manufacturing industries. Selling animals can provide income to help families in times of crisis. However there is always a risk that livestock will become ill or die, causing financial difficulties for their owners.

Another way that livestock can be a burden to families is in the area of children's education. If children tend to livestock rather than attending school, their education will suffer. Young children should not be used to contribute to the livelihood of their families or work unsupervised as this could be dangerous to their safety and well being. However they could contribute to household chores suitable to their age and physical abilities or even tend to small animals outside school hours.

The bigger picture: changing patterns of food consumption

What we produce and what we eat affects patterns of agriculture, health, the environment and economic development on a worldwide scale. For example, much of the international trade in maize and soya flows from countries such as Brazil, to feed livestock in East Asia. Many other developing countries are undergoing significant changes in food production and consumption.

Indonesia is a good example: today there is a population of nearly 250 million people,



Tearfund partner ZOE works with child-headed households in Bulawayo, Zimbabwe, providing them with goats to generate income.

and the country is urbanising rapidly with more than 60% of the population expected to be living in urban areas by 2025. As people shift from farming areas to the city, and as incomes rise, there will be greater demand for livestock products. A short walk around the shops in towns and cities in Indonesia shows that more and more of the national food demand is being met by imports from China and elsewhere. But local livestock production is one of the few ways that smallholder farmers can escape rural poverty – and avoid migration to urban poverty. It is important that local farmers are able to take hold of these opportunities. Forming cooperatives may be one way to compete in these international markets.

Lifestyle and identity

Finally, there is a fundamental difference in animal production between industrialised and traditional societies. In the former, the main aim is to make a profit. In the latter, livestock have a cultural importance to pastoral peoples as part of their social and cultural identity. Managing livestock can cement and encourage important community relationships and exchange mechanisms such as wedding dowries, and may even have religious significance.

Problems of lifestyle and diet have become extreme for communities such as the Inuit of Canada. Traditionally, they have hunted

over wide areas and domesticated livestock species, but recent policies have forced people to live in particular areas, changing the hunting, gathering and trapping lifestyle of the people to sedentary village life. This process of cultural and physical dispossession has caused a decline in physical and mental health and in community life. The whole existence of such minority peoples is threatened by the changes to their relationship with livestock that have been forced on them by others.

Summing up

So what can we say: are livestock a blessing or a burden? There is no simple answer to the question and of course, the type of livestock production practised and the ecological context both matter. But think about one of the most common livestock problems, which is this: if someone else's cow eats my crops, is it the fault of the cow? Maybe the problem is not with livestock but with people. Livestock were created to be a blessing, but we need to manage them well otherwise they can turn into a burden for our communities and our world.

Dr Nigel Poole works on a range of issues of international development at the School of Oriental and African Studies. He worked for Tearfund from 1980–1991 and is a long-standing member of the Footsteps Editorial Committee.

EDITORIAL



Alice Keen
Editor

All of us are dependent on livestock for different products and services.

Whether we live in cities or in rural areas, animals give us so much; from the food that we eat to the clothes that we wear. For many, livestock are also their livelihoods, providing meat, milk, wool and leather, as well as manure for fertilising the land. God created animals to bless us and he even gave Adam the privilege of naming them in the Garden of Eden. But as you will see in this edition, if we are not wise in the way we treat and manage livestock, there can be many problems on both a local and a global level.

For this edition, we have gathered stories, advice and information from across the world. There is an interview with a community-based animal health worker in Kenya (page 16), a centre spread feature on animal loan schemes (page 8–9) and an article on how to deal with livestock in emergencies. I hope you also enjoy the Bible Study on caring for creation (page 13) and the radio play (page 14), which you might want to perform in a group. You could even create your own play to communicate a message you think is important.

Recently we sent questionnaires to some of our readers and the responses we have received have been so encouraging! From a senior citizens' fellowship in the Philippines to a local church in Haiti, readers have been telling us how they use *Footsteps* and what they think of the magazine. If you have received a questionnaire and haven't returned it yet, please do this soon. It will help us to make *Footsteps* even better.

Blessings from the *Footsteps* team,

Alice

Livestock in emergencies

by Cathy Watson, LEGS Coordinator



Eleanor Bentall / Tearfund

Pack animals can be a great help for refugees displaced by conflict or food crises.

Many millions of people around the world depend on livestock to support their families. These livestock can be the cattle, camels, sheep and goats that make up the pastoralist herds in sub-Saharan Africa, or the water buffalo that provide milk and draught power in many parts of Asia, or the llamas whose meat and hair are a key source of family income in Peru.

As discussed in the last edition of *Footsteps*, disasters are a part of everyday life for a large part of the world's population. These disasters include droughts, floods, earthquakes, tsunamis, tropical storms and severe winters. In many cases, not only are the people affected by the disaster, but their livestock are too. Animals may die in droughts and floods, lose their shelter or their source of fodder in earthquakes, or

their water source may be contaminated in tropical storms. Disasters can therefore have an impact on people's livelihoods, as well as on their lives.

However, many emergency response programmes focus on providing food, shelter and medicines to people, whilst overlooking that they may also have lost their means of livelihood. Some emergency response programmes fail to understand

CASE STUDY ONE

Emergency feed for livestock complements rescue operations in Bangladesh

In July 2007, severe flooding affected over 60 per cent of Bangladesh, with the greatest impact in Northern Jamuna. The UK Department for International Development were already working with the communities living on chars in the region to improve their livelihoods [ED: *Chars are sandy islands and low-lying flood-prone areas at the river's edge that are frequently washed away*].

The project then responded to the flooding with a relief effort which included food aid, water purification tablets, rescue operations and livestock support. They provided livestock feed for 15,000 cattle for eight days, which supported at least 90% of families in the project area. Over 3,300 cattle were rescued, alongside the 3,800 people.

CASE STUDY TWO**Voucher scheme to support animal health in Kenya**

In the drought-affected rangelands of North West Kenya, drugs for livestock are in high demand. However, the provision of free drugs undermines local service chains and means that once the emergency is over, the private sector (Community-Based Animal Health Workers – CBAHWs – and local private pharmacies) is often unable to resume supplies.

The International Committee of the Red Cross therefore piloted a voucher scheme,

where vouchers were given to selected families who could then exchange them for specific treatment and drugs provided by private CBAHWs and veterinary assistants. The scheme covered around 30,000 people. The scheme allowed resources to be targeted to the most vulnerable households, while at the same time supporting and reinforcing the existing network of CBAHWs and private veterinarians.

the role of livestock in livelihoods and may be inappropriate, poorly designed or delivered too late to be of assistance.

The Livestock Emergency Guidelines and Standards (LEGS) are a set of international guidelines to support emergency responses to help livestock owners affected by disasters. They are based on international good practice, and cover a range of technical areas such as livestock health, feed, water, destocking, restocking and livestock shelter. The guidelines also provide a set of practical tools for assessing the impact of a disaster on local communities; identifying in a participatory manner the most appropriate and timely interventions; and designing emergency responses to support livestock and their owners during and after a disaster. Key to the LEGS approach is the importance of participation by the affected communities, and the need to understand how livestock fit into the lives of those affected, in order to help protect and rebuild livelihoods in an appropriate way.

LEGS is designed for project officers and development workers who are responsible for designing and implementing activities in response to an emergency. The LEGS Handbook is available as a free download from the LEGS website, as well as in hard copy from the publisher (details on the LEGS website: www.livestock-emergency.net). It has been translated into French, Spanish and Arabic.

The LEGS training programme is based on a series of regional training of trainers courses, which produce a small team of LEGS trainers in each country. The LEGS

trainers then carry out the basic three-day LEGS training course within their own organisations and in response to demand from others. To date 11 training of trainers courses have been held. These have been in East Africa, West Africa (both Francophone and Anglophone), Southern Africa, Central Africa, South-East Asia, South Asia, Pakistan/Afghanistan and Central America. There are now a total of 189 LEGS trainers worldwide, who can be called upon to deliver the LEGS training course.

The LEGS Handbook will be revised over the coming year through an online consultation process via the LEGS mailing list. New case studies and examples of emergency livestock responses, particularly from Asia and Latin America, would be welcome to feed into this process. More details about the consultation process and a template for case studies will be posted on the LEGS website shortly.

Subscribers to the LEGS mailing list receive regular updates about LEGS activities, including the training programme. To join the mailing list, contact the LEGS Administrator: admin@livestock-emergency.net

CASE STUDY FOUR**Humans and livestock in the Kosovo crisis**

In 1999, during the conflict in Kosovo, families slept in their livestock shelters alongside their animals, because their war-damaged houses could no longer provide suitable shelter from the cold weather. Families benefited from the body heat

CASE STUDY THREE**Post-earthquake livestock distribution in Iran**

The Bam earthquake in southern Iran in 2003 led to the death of over 40,000 people. Although the livelihoods of the majority of people in the area were based on growing dates and farm labour, many also kept a small number of animals to supplement their food supply and their income, including cattle, sheep and goats, most of which were killed or lost during the earthquake and its aftermath.

ACF-Spain designed a livestock distribution project to provide two goats, together with some feed, to each of the 1,200 vulnerable households in 17 affected villages, selected in collaboration with the local council. The aim was simply to provide milk and additional income to these families. However, a follow-up survey found that in addition to the economic benefits of the goats (milk and wool production) the beneficiaries also emphasised the positive psychological impact of the livestock distribution (ie a source of interest and motivation for trauma-affected children).

For any further information about LEGS, see the LEGS website: www.livestock-emergency.net, contact the LEGS Coordinator: Coordinator@livestock-emergency.net or write to:
The LEGS Project
c/o Feinstein International Center
Tufts University
PO Box 1078
Addis Ababa
Ethiopia

Urban goat-keeping

by Moses Kamau Wanjiru

Our goat-keeping project was based in Nairobi's informal settlements of Korogocho, Kibera, Kariobangi and Kawangware. The most important benefits of keeping goats were the milk and the manure they produced. Droppings were used as manure for organic farming especially 'gardens in sacks' which are common amongst the slum dwellers of Nairobi. Some of the manure was also used in local biogas projects.

The goats were kept in simple pens or shelters. Most were made from off-cuts of timber and mud. These materials were chosen because they were easily available, accessible and cheap. They were mostly fed on fodder eg Napier grass (native to tropical grasslands in Africa), household vegetable waste, pasture grass on idle public land, crop residues from local markets and other urban farmers.

There are varied reasons why people chose to engage in goat-keeping:

- Goats are a good source of milk and a good way of investing and saving money. They are readily available assets and help families to survive during times of crisis.
- They are scavengers and have an ability to survive on household food waste.
- They are good for people who do not have a lot of money to start with. Investing in goats is not too risky as they cost less than larger animals.

- It is easier to find feed for small animals like goats, especially in the informal settlements where there is limited space and pasture land. However it is still important to give them enough space, vary their location if possible and regularly clean areas where they are kept.
- Goats mature quickly and have a high rate of reproduction.
- Goats are tough and resilient to many parasites and diseases, making them easy to manage (unlike cows, which are highly sensitive).
- Goat-keeping offers a suitable opportunity for people to improve their skills through participating in training and extension activities.

There are challenges to keeping goats in the city:

- Goat theft.
- Lack of capital to start up the project and lack of credit available.



Wool from goats can be a source of income. It can be spun into yarn and knitted into warm clothing.

- Poor availability of training in animal management.
- Lack of favourable city council laws governing urban agriculture, especially livestock rearing in the city.
- Inappropriate waste management, leading to environmental and public health dangers.
- Lack of water. In slum areas, water has to be bought from outside. Because of the high cost, this often means that other water sources (which might be contaminated) are accessed for both livestock and human consumption.
- Poor animal health due to both bad management and the high cost of veterinary services and drug treatment. People often turn to drug stockists for advice or use traditional remedies.



Goats are suitable for rearing in informal settlements because they do not need large pastures to graze in.

Keeping goats in informal settlements has had positive effects on the community by improving household security through regular milk supply for the family, by providing income from selling excess milk and by using the goats as collateral for loans from other project participants during times of crisis. The participants gained new skills and learned to support each other. Manure from the goats helped the families to engage in productive 'garden in a sack' farming and in small gardens around their houses. This ensured a continuous supply of vegetables, enough for the home as well as a surplus for selling.

To find out more about this project, please contact moseskamauwanjiru@gmail.com

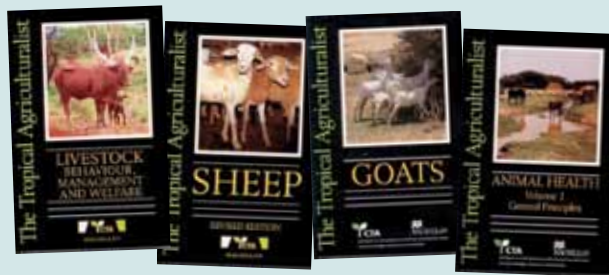
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CTA Publications

Spore is a regular magazine produced by the Technical Centre for Agricultural and Rural Cooperation (CTA). The CTA focuses on the countries of the Africa, Caribbean and Pacific (ACP) group, which have a special relationship with the European Union through the Cotonou Agreement. The magazine contains articles relevant to NGOs, government departments and other organisations working in agriculture and rural development in these regions. The electronic version of *Spore* magazine is accessible to everyone. To receive it, send a blank email to: join-spore-en@lists.cta.int For more information, visit: <http://spore.cta.int/>

CTA also have a range of publications on livestock. These include the popular Agrodoks series which includes technical guides relating to topics such as 'Donkeys for traction and tillage', 'Zoonoses' and 'Backyard rabbit keeping in the tropics'; CTA Practical Guides on topics such as 'Worm control in sheep' and 'Rearing dairy goats' and the Tropical Agriculturalist series with individual guides including 'Sheep', 'Pigs' and 'Animal breeding'. To view their full catalogue, visit: <http://publications.cta.int>



All CTA's publications are available in English, French and Portuguese.

According to the CTA website, organisations, departments or units located in an ACP country and active in agricultural and rural development can receive the following free of charge:

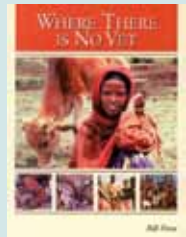
- *Spore* magazine in the selected language
- an account to order publications on CTA's website.

You can apply for a subscription and an account through the CTA website. Follow the link on the homepage and click on 'Apply for a free subscription'. Alternatively you can request an application form by emailing pdsorders@cta.int or writing to: CTA – Publications Distribution Service (PDS) PO Box 173 6700 AD Wageningen The Netherlands

Where There is No Vet

by Bill Forse
ISBN 9780333588994

As well as first aid, this book covers a wide range of topics affecting the health of livestock including advice on the care, feeding and handling of animals, and the use of traditional remedies, modern medicines and vaccines. Descriptions of diseases help readers to diagnose what is wrong with an animal and what to do about it, as well as to know when help from vets or skilled workers is needed. Routine treatments, assisting with births, dealing with emergencies and simple operations, are also covered. The book deals with cattle, buffaloes, goats, sheep, pigs, horses, donkeys, camels, dogs, rabbits and poultry. Cost: £9.50 plus delivery charge.



To order contact:
TALC
PO Box 49
St Albans
Herts
AL1 5TX, UK
Email: info@talcuk.org

Useful organisations and websites

Practical Action's Technical Enquiry Service – <http://practicalaction.org/practicalanswers>

The Technical Enquiry Service aims to help individuals and organisations in developing countries by supplying technical support for their projects and initiatives. They try to supply information of direct relevance to the individual enquiry and will take into account the non-technical factors that might have a bearing on the use of the technology. Practical Action also have Spanish and Bengali sites.

You can submit an enquiry through the website or by contacting one of their regional offices:

East Africa: PO Box 39493-00623, Nairobi, Kenya

Southern Africa: 4 Ludlow Road (off Enterprise Road), Newlands, Harare, Zimbabwe

South Asia: 5 Lionel Edirisinghe Mawatha, Kirulapone, Colombo 5, Sri Lanka

Sudan: PO Box 4172, Khartoum, Sudan

Nepal: House no 2677, Narayan Gopal Sadak, Maharajgunj, PO Box 15135, Kathmandu, Nepal

All other regions: The Schumacher Centre, Bourton on Dunsmore, Rugby, Warwickshire, CV23 9QZ, United Kingdom

The Food and Agriculture Organization of the United Nations (FAO) – www.fao.org

The FAO aims 'to make sure people have regular access to enough high-quality food to lead active, healthy lives'. There is a wealth of information about livestock on the FAO website, particularly on the publications pages, including case studies and statistics. You can visit the FAO Knowledge Forum at:

<http://www.fao.org/knowledge/en/>

The website is also available in Spanish, French and Russian.

Animal loan schemes

In the last decade, animal loan or 'pass-on' schemes have been started all over the world. Usually an animal is given to a chosen beneficiary by an organisation, government body or church, with an agreement that a number of its offspring will be passed on to others in the community or back to the scheme organisers to start a new project. In some cases, particularly with male pack animals (used for traction or transport), loans will be repaid in cash rather than by passing on offspring. Such schemes have brought many blessings to families and communities.

However, starting an animal loan scheme is a serious project which should not be undertaken without careful thought and preparation. To help readers to think about this process, *Footsteps* has put together some questions to answer, either individually or in a group. On page 10 you can also read advice from organisations around the world which have run their own schemes.

Experience from Afghanistan

'The Eastern Region Community Development Project (ERCDP) trained community elders and Shura (village committee) members about the importance of sustainability and self-sufficiency. As a result, both Shura members and community elders are taking responsibility for the scheme and are willing to help poor and vulnerable families by acting as loan guarantors. They also help to select vulnerable community members and contribute financially to all aspects of the programme.'

SERVE – Afghanistan

Loan agreements

- How many offspring will beneficiaries be required to pass on? How will this be checked?
- What kind of agreement will there be?
- What penalties will there be if people fail to repay the loan or pass on the offspring as required?
- How will poor management or neglect of the original animals in the scheme be dealt with?

Animal health

- How easy is it for the community to access animal health services?
- Where are drugs available for animals?
- Who will provide for routine preventative drugs and treatments?
- If there are no community-based animal health workers or paravets locally, can the community (or an organisation working with the community) lobby for services to come to the area?
- What diseases are common in the area? What can be done to prevent disease passing from animals to humans?

Choice of beneficiaries

- Is there a shortage of livestock in the area?
- Have other methods for improving existing livestock management already been introduced? How successful were they?
- Is there a desire in the community to have a loan scheme?
- Who is most vulnerable in the community?
- Do potential beneficiaries have enough resources (land, labour, etc) to support any livestock they receive?

Choice of animal

- What kind of animal is commonly reared in the local area? What will this animal produce? Will this animal be able to contribute significantly to improving the wellbeing of the beneficiary families?
- Are local breeds the best choice or should other breeds be considered? Are certain animals inappropriate in the community for religious reasons?

Housing

- What kind of housing will this kind of animal require?
- Are the materials to build housing available locally?

Experience from Malawi

'The greatest impact of the scheme among community members is that it reached many vulnerable beneficiaries after starting with just a few. They have been able to improve their food security by making money from selling livestock. Some use the money to pay school fees as well as to buy uniforms and school materials for their children.'

EAGLES – Malawi

Feed and water

- What kind of feed will the animals require? Is this available locally? If not, where will it be sourced? Could it be introduced to local farmers and grown locally?
- How available is water throughout the year? Will animals and humans compete for use of the same water supplies?

Produce

- Where will people sell any excess produce from the animal (eg wool/milk/skin)?
- What kind of training could be provided for people to improve their marketing skills?

Experience from Zambia

'Our parents used to have a lot of cattle and goats. Around 1990, animals started dying of diseases until we did not have even one single animal. Our lives changed suddenly, we had no milk, no money to pay for our school fees, we started using hand hoes for farming and the demand for inorganic fertilisers increased because we didn't have any cow dung. In 2008, the Brethren in Christ Church (BICC) selected us to receive a cow and an ox on loan to use for draught power. After farming for two years we managed to pay back the loan and buy one more ox. Now we have three new animals in addition to the two we received initially.

BICC trained us on how to manage our animals. They also helped us with materials to construct a dip tank where all the people in the area dip their animals. At first it was difficult to manage these animals according to the necessary standards, but now we are managing well and we are happy. The animals are affordable and payments are flexible.'

Ather Mudenda, Zambia (a BICC beneficiary)

Knowledge of livestock management

- What do people in the local area already know about animal rearing and breeding?
- What kind of training might be needed before people receive animals? Who will provide this training?
- What training might increase the yield (milk, meat, wool etc)?
- How will the manure which the animals produce be used?

With thanks to Send a Cow for their advice on this feature.
For more on their work, visit www.sendacow.org.uk

Animal loan schemes: advice from around the world

As you can see by our feature on pages 8–9, running an animal loan scheme can be a rewarding but challenging experience. So to help you, *Footsteps* asked five organisations across the world to share their experiences with our readers. Many thanks to the following Tearfund partners:

- Brethren in Christ Church (Zambia)
- [REDACTED]
- Myanmar Baptist Convention
- EAGLES (Malawi)
- Livingstonia Development Department (Malawi).

WHY DID YOU START AN ANIMAL LOAN SCHEME?

'Many farmers in the Southern Province of Zambia (where the Brethren in Christ Church works) rely on cattle as a source of traction, as well as for meat and dairy products. Unfortunately herds were severely depleted by corridor disease (a form of East Coast fever transmitted by ticks) during the 1990s. The great loss of cattle meant they were in high demand, which in turn led to unusually high cattle prices. This made it very difficult or impossible for the rural poor to have cattle, prompting us to help people in this area of great need.'

Brethren in Christ Church, Zambia

WHOM DID YOU SELECT TO RECEIVE ANIMALS AND WHY?

'Normally beneficiaries are poor families with school-aged children, widows and female-headed households. We also look for those who have experience and resources available for raising livestock (time, space, etc). A Village Livestock Committee, formed at the start of the programme, chooses the beneficiaries.'

Myanmar Baptist Convention

'The community selected the poor who are infected with or directly affected by HIV and AIDS to receive two cows on loan.'

Brethren in Christ Church, Zambia

'The beneficiaries are identified at a community meeting where everyone is welcome. They are selected according to criteria which identify vulnerable households (eg people living with HIV/AIDS, the elderly, child-headed households etc).

EAGLES, Malawi

WHAT KIND OF TRAINING DID PEOPLE RECEIVE?

'The [REDACTED] project organises various kinds of training for the vulnerable families and others in the community. These cover different types of livestock such as general animal husbandry, how to feed the animal during its lifecycle (ie pregnancy, lactation etc), animal health (including the importance of seasonal vaccination and de-worming campaigns etc), milk processing, and hygiene and sanitation.'

'Beneficiaries are trained in cattle management before they receive animals. Special training on basic business management is run to help beneficiaries to conduct their farming business profitably.'

Brethren in Christ Church, Zambia

'After beneficiaries are selected, experienced people provide training on housing, how to choose an appropriate animal, prevention and treatment of diseases, feed, documentation and marketing.'

Myanmar Baptist Convention

HOW IS THE SCHEME ADMINISTERED? WHAT ADVICE CAN YOU GIVE TO READERS?

'Repayments can be done in cash or any other form of payment which is easy to change into cash and which is accepted by the community. This money is used to buy more oxen which are given to a new group of beneficiaries. The repayment is done with a low interest rate fixed by the



Ather Mudenda received an ox from BICC and was able to buy the second after two years of farming and saving.

Please write to: The Editor, Footsteps, 100 Church Road, Teddington, TW11 8QE, UK
Email: footsteps@tearfund.org

Managing an orphanage and a library

Thank you very much for the copies of *Footsteps* magazine that you have kept on sending me. These have been very helpful to me as they have been serving as the source of the vital information that I need. I would appreciate any information on how to manage an orphanage and a library or addresses where I can get information about these topics. This would greatly help our young organisation.

Raidon Mutale and Irene Kabwe Muyabala
Foundation of Mercy, PO Box 450132,
Mpika, Zambia

foundationofmercy@yahoo.com

EDITOR'S NOTE: *Tearfund encourages rehabilitation of children without parents back to their biological or extended families and if this is not possible, to foster parents identified, trained and supported by their church. For more info visit the Child Development section on the TILZ website.*

In *Footsteps* 88, Liu Liu asked people to suggest ways of preventing goats from damaging crops. Here are some of the answers:

Dear Liu

Here is a suggestion to meet your challenge. Please ensure that you do not read this around meal times for the sensitive ones! There is an appropriate way to address the challenge using goat droppings (faeces). You might want to ask those keeping goats to help and give them a sizeable container for this purpose. Depending on the size of the herd, you or

Have you changed your address?

Do you want to switch to the email version, e-Footsteps? Do you want to receive *Footsteps* in French, Spanish or Portuguese? Please do get in touch!

Could you send us regular feedback to help improve *Footsteps*? To join the *Footsteps* Feedback Group, please write to the Editor.

the goat-keepers might need to pick the material once every two days till you have enough. I am sure that the keepers would be more than glad to supply you with generous quantities of the stuff!

You can either place the droppings around the seedlings, or better still, stir them into water and make a generous sprinkling around the seedlings. A bunch of palm leaves or fresh fallen branches made into a broom makes a good sprinkler. Please remember to use protective clothing and wash anything that has come into contact with the faeces (hands, tools etc.) with soap after every process to avoid infections. This is a workable goat deterrent. It is also effective against fowl, cows, etc. I have observed it in cottage farms in South Africa, Namibia, Niger, Somalia, Ghana, Nigeria, etc. It can be used in different climates and is environmentally sustainable and a direct means of organically fertilising the seedlings.

Michael Anikamadu, Nigeria

Dear Liu

In small gardens farmers use live fencing made of plants such as Moringa or Jatropa to keep cattle, pigs, goats and chickens away from crops. These gardens are mainly used in the dry season (April to November in Zambia). During this period, animals are left to move about in communities and only brought back each evening. In the farming season (November to March) animals are herded to prevent them from destroying people's crops.

Brethren in Christ Church, Zambia

Dear Liu

Here in Sindh, Pakistan, farmers use the magnetic tape from old audio and video cassettes to scare away wild boar from wheat, carrots and maize crops. They put in wooden posts (just ordinary sticks) all around the edge of the crop and then tie the magnetic tape all along. It proves to be quite successful and scares off other animals and birds as well.

Ashraf Mall, Pakistan

community management committee in consultation with the community. With dairy cows, repayment is done by passing on one offspring per animal received.'

Brethren in Christ Church, Zambia

'The Shura (village committee) help us to select the beneficiaries. We then prepare specific agreements with the chosen families, which set out the responsibilities of the three parties involved in the loan, namely the project, the eligible families and the Shura members who are acting as guarantors. When the family returns the offspring required for redistribution, we give them a certificate of ownership which shows that the original animal and its future offspring belong to the family.'

'The Village Livestock Committee is key to the success of the project because it supervises and monitors the scheme to avoid poor management and the outbreak of diseases.'

Myanmar Baptist Convention

'In order to make the process transparent, it is spearheaded by a special committee and by traditional leaders. All the animals are given out in an open place where everybody is invited to witness who gets which animal. All the farmers sign an agreement in the presence of traditional leaders and the livestock committee. Agreeing on a constitution that safeguards the scheme has been vital.'

Livingstonia Development Department, Malawi

Zoonosis: how animal diseases can become human diseases

by Dr Sally Best

A zoonosis is a disease or infection that is naturally transmitted between animals and humans. Zoonoses cause serious public health problems and often particularly affect poor communities. Although they are usually preventable, many zoonotic diseases continue to spread because they are neglected by national and international health systems. Zoonoses are also responsible for many new diseases. In fact, the majority of new diseases that have emerged over the last few decades have been passed from animals. Since they also affect animal health, they affect food production and international trade in animal products which in turn affects economic development.

There are more than 200 known zoonotic diseases, caused by all sorts of germs which circulate in wildlife, domestic livestock or both. Examples of zoonotic diseases that can be passed from livestock to humans include bird flu, sleeping sickness, tick-borne diseases, tuberculosis and some worms. Rabies is another important zoonotic disease, although it is carried by dogs rather than livestock.

Zoonoses can pass between humans and animals by a variety of routes including

direct and indirect exposure to animals, their products and/or their environment. For example, infection can occur by eating contaminated food, through animal bites, insect bites or contamination of the environment. Therefore methods to prevent human infection vary for different diseases, with several examples described below. It is important to control animal diseases to prevent onward transmission to humans and to maintain healthy productive livestock.

Human sleeping sickness (East African form)

ANIMALS AFFECTED: Mainly cattle.

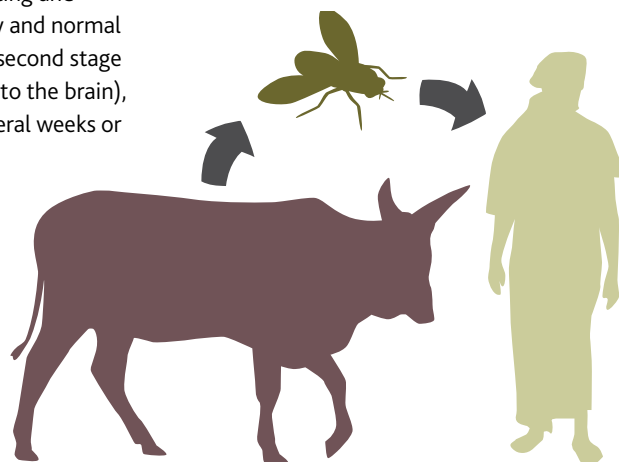
TRANSMISSION: By the bite of an infected tsetse fly.

HUMAN DISEASE: Headaches, fever, weakness, pain in the joints, and stiffness in the early stage while the parasite multiplies in the blood and lymph. Fitting and changes to both personality and normal sleep patterns occur in the second stage (after the parasite moves into the brain), leading to death within several weeks or months.

TREATMENT: Seek medical attention, particularly if in an area where infection is common. In most cases, medication will cure this disease, although the chance

of serious side effects is much lower if treated early.

PREVENTION AND CONTROL: Early diagnosis and treatment in humans, mass treatment of cattle and control of the tsetse fly.



Pork tapeworm

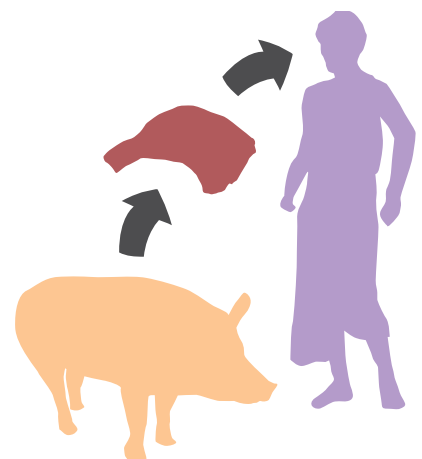
ANIMALS AFFECTED: Swine (pigs and boar).

TRANSMISSION: When people eat raw (or undercooked) pork containing tapeworm larvae, adult tapeworms can grow in their gut and release tapeworm eggs in their faeces. It is then very likely that they and their close household contacts will ingest the eggs via contaminated fingers, food or water. These eggs develop into larval cysts in human tissues causing disease.

HUMAN DISEASE: Disease is caused by larval cysts which most often develop in the central nervous system or eyes. Symptoms include seizures, headaches, learning difficulties and convulsions. Note that tapeworm infections in the gut spread the infection but do not cause the disease symptoms.

TREATMENT: Can be hard to treat and is often chronic. Seek medical advice.

PREVENTION AND CONTROL: Handwashing after going to the toilet and before preparing food or eating is very important to prevent ingestion of tapeworm eggs. Strict meat inspection and eating only well-cooked pork are also important to prevent transmission of the tapeworm from swine to humans.



BIBLE STUDY God's care for all of creation

by Tim Carriker

Rabies

ANIMALS AFFECTED: Domestic and wild animals. Dogs are the source of 99% of human rabies deaths.

TRANSMISSION: Close contact with infected saliva via bites or scratches.

HUMAN DISEASE: After a typical incubation period of 1–3 months, symptoms such as fever and prickling/burning at the site of infection develop. Progressive inflammation of the brain and spinal cord follows and the disease is fatal without treatment.

TREATMENT: Consult a doctor immediately if you have been bitten. Please note that dogs with rabies generally behave normally, so all bites are suspicious. Wound cleansing and vaccination within a few hours after contact with a suspect rabid animal can prevent rabies in the patient and possible death.

PREVENTION AND CONTROL: Vaccination before coming into contact with rabies can prevent infection. Animal vaccination (mainly dogs) helps prevent the spread of disease. Human vaccination is recommended for travellers to affected areas and for animal handlers in high risk areas.



Dr Sally Best is a medical writer. Her PhD research was on new methods for diagnosing human sleeping sickness.

There is no doubt that God's overarching intention is to redeem his creation; a creation that he declared to be wholly good (see Genesis 1:12, 21, 25, 31). Creation and new creation dominate the beginning and the end of the storyline we see in the Bible, starting in Genesis and ending in the Book of Revelation.

Perhaps it is not surprising that humans tend to think only of themselves when reading of God's love for 'the world' or even the 'whole creation'. But the Bible frequently makes clear that God's covenant is not only with Noah's descendants but also all animal life (Genesis 9:9-10; Hosea 2:18). The picture painted of the new creation in the 'end' is fully inhabited with representatives not only from every tribe, nation and people, but from the animal and plant worlds as well.

The picture of harps and wings in the heavenly clouds, far removed from the earth, is simply not related to the biblical view of the new heavens and the new earth (see Revelation 21:2-8). God's new creation, just like his first creation, will be the work of his own hands. In the Bible, God is depicted as both Creator and re-Creator. But the Bible also says that human beings have a role in God's plan from the very beginning to the very end. That is what we want to briefly consider here...

From the very beginning, God entrusted the human race with the care of everything he created and this includes the animal world.

Read Genesis 1:26 and 2:19

- What does it mean to rule over creation?
- If God cares for all living creatures and we are made in his image, how should we treat our livestock? Is there anything you could do differently relating to any animals in your care?
- Look up these other passages: Proverbs 12:10, Exodus 23:5. How do they affect the way you think about your role as a steward of creation?

The way we treat animals is a sign of how we treat the whole of creation. The focus in scripture is on God making humanity to be the crown of his creation and calling people to worship him and to reflect his image. The Bible clearly forbids any worship of creatures. Humans are permitted to

use both animals' flesh and fur, but never for selfish gain. Fairness and justice are principles which we should apply in the way we treat animals of burden in the same way as we would treat human labourers. We cannot claim to be obedient to God if we are abusing what belongs to him.

Read Psalm 8

- What does this Psalm say about the special position of humanity in God's creation?
- What responsibilities follow from that special position?

To the very end God's intention is to redeem and restore the original creation which was 'messed up' when humanity, through our own disobedience, did not fulfil their given role as God's stewards on behalf of creation. God provides a means of restoration in Jesus.

Read Romans 8:18-23

All of creation, including humans, animals and plants, is intertwined. How has the fall of humanity affected our relationship with the rest of the creation?

- What does the current subjection of creation (verse 21) look like today?
- What will the future of creation look like? (see also Isaiah 65:17-25) How does that vision affect our behaviour now?

Tim Carriker is the chaplain for A Rocha Brazil – a Christian nature conservation organisation.
Website: www.arocha.org Email: tim@carriker.org



The Lord God took the man and put him in the Garden of Eden to work it and take care of it.
Genesis 2:15

Dorothea the Dairy Cow: Livestock on the airwaves

The following script is designed to be a radio play. It discusses the importance of proper sanitation and hygiene when working with cattle in a dairy. It uses an element of mystery to catch and hold the listener's attention, and maintains it with quick and clever dialogue throughout the drama.

Ask people at your radio station to play the three parts. Try to find people with distinctive voices so that your listeners won't be confused by the fast-paced dialogue. Make sure they have rehearsed their parts so that things will go smoothly on the air. You can add to the drama by creating some simple sound effects. Animal noises, footsteps, and the sounds of doors or gates opening and closing can help your listeners visualise the dairy farm where this story takes place.

This programme features the adventures of Vicky and Eddy. It was adapted by Farm Radio International from a weekly series on agriculture for rural youth of the Americas, produced by Inter-American Institute for Cooperation on Agriculture in Costa Rica (www.iica.int).

Characters

- Vicky
- Eddy
- Farmer Sam
- Announcer



This dairy cow gives nine to 15 litres of milk a day to a young couple in Zambia.

Scene one

VICKY: Hey Eddy, what's the matter? You seem a little upset.

EDDY: Yes, I just came from the dairy and Dorothea the cow is sick.

VICKY: Oh, poor Dorothea. What does she have?

EDDY: She has mastitis. I am very worried.

VICKY: I can see that. Do they know why she got sick?

EDDY: No. They told me at the dairy that they still don't know the cause.

VICKY: Oh well, don't worry. She'll get better, I'm sure. I'll go and see her this afternoon, and if there is anything new, I'll call you.

EDDY: Okay, that's fine.

Scene two

Sound effects: Phone ringing

EDDY: Hello?

VICKY: Hello, Eddy. It's me, Vicky. You must come to the dairy immediately. I think I have found the cause of Dorothea's illness.

EDDY: Why? What happened?

VICKY: Come to meet me here, and I will explain it to you.

EDDY: Okay. I'll be right there.

Scene three

Sound effects: Cow noises in the background

VICKY: (Whispering) Over here, over here...

EDDY: Vicky, what are you doing there? Why so much mystery?

VICKY: Shhh! Lower your voice. I don't want them to hear us.

EDDY: We are going to get in trouble for being here.

VICKY: I know, but listen to this. The boy milking the cows didn't even wash his hands before starting to milk. This means that he is not following proper sanitary procedures.

EDDY: What a shame! No wonder Dorothea and the other cows are sick!

VICKY: We are going to have to do something about it.

EDDY: I think that we should separate and investigate a little more, to see if – I don't know – if we find other problems.

VICKY: Good idea. You look around. I'll stay here.

EDDY: Okay.

Scene four

VICKY: Eddy, did you find something?

EDDY: Yes, and I think that it's urgent that we talk to Farmer Sam, so he can implement an Animal Health Programme, before...

FARMER SAM: (*interrupting*) Guys, what are you doing here? This is private property.

VICKY: Hmm... um... well

EDDY: Farmer Sam, excuse us for having come in without your permission, but we have toured the dairy and have found some problems that are endangering the health of the animals.

FARMER SAM: What are you talking about? Please explain yourselves.

VICKY: Okay. First, have you heard about the Animal Health Programme?

FARMER SAM: I think so. But, I am not quite sure. What is it exactly?

EDDY: With an Animal Health Programme, you can control animal diseases, and you also prevent them. The programme consists of three parts. The first is to prevent the entry of new diseases, the second is to examine and evaluate the diseases that are already present, and the last is to develop a control strategy. Let's go over to Dorothea's stall and we can tell you more about it.

Fade out scene

Scene five

VICKY: Look, Farmer Sam, we believe that the cause of the mastitis in Dorothea and the other cows is that some of the milkers don't wash their hands before milking. And they don't disinfect the udders either.

FARMER SAM: Yes, that's possible, because one of my sons just started doing the milking – he has never done it before. I will talk to him, and explain why it is so important to keep clean when working with the cows.

EDDY: Farmer Sam, as you know, if you don't follow an Animal Health Programme, other new diseases may appear.

FARMER SAM: Okay, but you still haven't told me about other problems you have found on the farm.

EDDY: To begin with, the fence that separates your property from the neighbour is in bad shape. You should fix it as soon as possible, so the neighbour's cows do not come into contact with yours. Also, one of your dogs was wandering by the cow pen. Other animals should not go in there, only the cows.

FARMER SAM: (*irritated*) Probably the dog came in by the same place you did, didn't he?

Farm Radio International

Farm Radio International is a Canadian charity working with over 400 radio broadcasters in 38 African countries to fight poverty and food insecurity. They support African radio broadcasters to meet the needs of local small-scale farmers and their families in rural communities.

They develop radio scripts and information packages to share with African broadcasters. They also offer a weekly electronic news service (<http://weekly.farmradio.org/>) and a special online community for radio broadcasters called Barza (<http://www.barzaradio.com/>). They, in turn, use these resources to research, produce and present relevant and engaging programmes for their

audience of millions of farmers. With partner radio stations they plan and deliver special radio campaigns and programmes that have a specific impact on a development challenge such as soil erosion or banana bacterial wilt.

If you would like to know more, you can visit: www.farmradio.org or contact them by writing to: Farm Radio International, 1404 Scott Street, Ottawa, Ontario, Canada, K1Y 4M8 or by emailing: info@farmradio.org



VICKY: Well, yes, but that's not the issue. I wanted to ask you what you do with the new cattle arriving at the dairy.

FARMER SAM: When new cows arrive here at the farm, I keep them separated from the rest, for at least 28 days. Also, I call the veterinarian and he does several blood tests to evaluate their health status. After that, I allow them to mix with the rest of the animals.

EDDY: That is excellent – you are taking the proper steps. The next part of the Animal Health Programme is to determine what animal diseases already exist on the farm. Try to find out which animals are sick and find the cause of the disease. Then you can try to eliminate the disease, either with vaccines or with some chemical treatment.

FARMER SAM: I want to tell you Eddy and Vicky that you have done an excellent job as researchers. I never realised that my animals were exposed to so many risks. From now on I will be more careful, and put into practice that famous 'Animal Health Programme'!

Play music as announcer speaks

ANNOUNCER: Remember there are three parts to an Animal Health Programme. The first is to prevent the entry of new diseases on to your farm, the second is to examine and evaluate the diseases that are already present, and the last is to develop a control strategy.

End music

Writing your own radio scripts or plays

If you want to write your own radio scripts or plays for your community, you might want to learn from Farm Radio International's experience:

- **COMMAND ATTENTION** Everyone loves a story, and we all like to listen in on the lives of other people. Radio dramas can be very effective in commanding attention. However, we recognise that they can be time-consuming and expensive to produce, so we write scripts in a variety of formats including interviews, group discussions and narrated stories.
- **CATER TO THE HEART AND HEAD** We are writing to convey social development messages and to change people's behaviour. The messages in our scripts appeal to people's intelligence. But to have lasting impact, they must also touch their emotions. We try to avoid technical language and a 'teacher's tone'. Instead, we write in a way that lets the listener place him or herself in the story.
- **CALL TO ACTION** We write for radio so that people will listen. But we also write so that people can take action. We try to present practical examples that have been beneficial to a farmer, a rural family, or an entire community, so that others can learn from their experience and copy their success.

A day in the life of a Community-Based Animal Health Worker

WHAT INSPIRED YOU TO BECOME A COMMUNITY-BASED ANIMAL HEALTH WORKER (CBAHW)?

Being part of a pastoralist community, I realised our animals were suffering due to limited access to veterinary services. The veterinary department is based in Marsabit, which means that the animal owners have to travel there and ask the department to send out staff. By the time help arrives, the animals have often died.

I felt that the veterinary services needed to be within the community so that when an animal gets sick, it is treated immediately. This inspired me to train as a CBAHW, because I felt the person treating the animals needs to be based with the animals to ensure that treatment is immediate. Both the community, and I, are very happy to save the animals.

As CBAHWs, I feel we give a lot to the community, through treating animals, and to the government by providing weekly disease surveillance reports, travelling to the district headquarters at our own cost.



WHAT DOES YOUR AVERAGE DAY LOOK LIKE?

My day usually starts at 5am. The first thing I do is to go and see my own herd, checking their health and observing the milking process. The milk provides for my breakfast!

By 7am, people who have sick animals come to look for me. I pick up my veterinary bag which contains small portions of all the drugs I commonly use. These include antibiotics, tick and flea spraying drugs and powders, de-worming and wound treating medicine and a castration kit. As soon as I get to the site, I carry out a physical examination of the animal, and make a diagnosis before prescribing the right treatment. Prescription is done according to the animal's weight. Animal weight is calculated using a measurement around the chest and the drug dosage is prescribed according to the weight.

If no-one comes to look for me that day, I carry my bag and go to my drug kiosk. It's there I sell all the basic animal treatment and health drugs. This means people from the area can come and buy drugs locally and call me as need arises.

WHAT ARE THE COMMON PROBLEMS OR ILLNESSES WHICH YOUR COMMUNITY FACES RELATING TO THEIR LIVESTOCK?

The common illnesses we treat are:

- Worms
- Ticks
- Wounds
- Eye infections
- 'Kipei' – a chest infection
- Pneumonia.



Interviewee:
Kubo Langatulo Detero
Location: Marsabit, Kenya

We also see diseases which we report to the veterinary department so that they can also take action:

- Peste des Petits Ruminants (PPR) [a highly contagious and infectious viral disease of domestic and wild small ruminants].
- Flukes (flat worms).

CHALLENGES

The three main challenges that I encounter in my work are:

- People do not always pay when I treat their animals. People may not always have cash at hand and if their animal dies, they are often unwilling to pay.
- Sometimes I get called to far away places to treat animals. I walk long distances, sometimes through the forest. The treatment provided may cost as little as one US cent. The time and distances covered do not always bring a return.
- I feel the CBAHWs should be legally recognised and better supported by the Government. Sometimes there are diseases such as Mulok (a liver fluke) which we need the Ministry of Livestock to investigate and take action on.

With thanks to Mbaraka Fazal, working for Tearfund in Kenya, for conducting this interview. Kubo was trained by Food for the Hungry. For more on their work, please visit www.fh.org