

Interviews conducted in Zambia by Catherine Grant and Noreen Machila (July-October 2013)
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Stakeholder narratives on trypanosomiasis, their effect on policy and the scope for One Health

Interviewee Domain	Number of Respondents
International Organisations	4- A, B, S, T
Private Sector	2- C, O
Charities	3- E, F, K
Government	4- H, L, M, N
Unions	1-D
Academia	6- G, I, J, P, Q, R
Total	20

Interview A- International Organisation

We give general budget support as part of the MDGs contract. The focus is on health, education and poverty. We also focused on road insurance.

There was a budget of €225 million.

We work in consultation with the government and other donors and indicators.

Our health work has two parts in 2012-

1. Sector budget support- to support health indicators- they were expecting more progress so they changed to the traditional approach.
2. Essential medicine- pharmaceuticals

We gave €44 million out of €1 billion to Zambia, so they got a large share.

Other key areas are maternal and child health care, maternal mortality and nutrition. UNICEF is going to implement this work and we are working on joint management. We work with lots of other sectors.

The government plays a strong role, especially the Ministry of Health and the Ministry of Community and Child Development. We decide projects in collaboration with the government. Health is properly supported so there is more energy into this.

For roads we give sector budget support and there have been policy reforms for the investment and maintenance plan. This is so it is not dispersed in government and the plan is not actually carried out. For now, we have dropped support for roads as there has been a lack of progress.

There is extra money available to deal with food security issues if this is needed.

Governance- judicial reform and access to justice and the electoral system is a focus area.

There is a lot of smallholder farming and conservation agriculture and this gives a better yield and is more environmentally friendly. We have decided that agriculture is a key area to focus on.

We don't do anything on sleeping sickness, we did in the past. Zimbabwe have led on this, there is a regional dimension.

In Zimbabwe in the early 1990s Desmond Lovemore was successful. I don't know why all this work stopped.

Our thinking is that if there's no progress we don't do it and we try and use the money only for things progressing well. We focus support where there's reform and we can have an impact.

We still need to define agriculture- conservation agriculture is seen as a panacea but there may be a limit. We could do more with livestock in the southern province.

We make research based decisions based on needs and potential. We look at what others are doing and if any gaps need to be filled.

No organisations are known to prioritise tryps. Maybe the commercial farmer's union.

FAO deals more with outbreaks but the government of Zambia can make a request for funds.

Tryps is seen as important much more as an animal disease rather than a human one.

The land management rules are unclear in Zambia. There are title deeds and tenure issues and planning issues. This is an issue for commercial farmers and GMAs.

Previously I worked for the European Commission in Zimbabwe in 1994. My interest areas are poverty alleviation, economic growth and private sector development. In Zimbabwe there is Desmond Lovemore and Bob Conner. They travelled throughout and there's some interesting historical data. Also speak to the Ministry of Agriculture.

Follow up with research results.

Interview B, International Organisation

Our organisation sets its current priorities based on the government of Zambia's priorities. It is based on the national development plan and it is developed from this. It

is also linked to the UN development framework. The priorities of this framework are to reduce hunger and poverty. While we try and follow the government's priorities we also try to provide direction to the government to include in their policies.

Nutrition and agriculture is a focus area. There was a bumper harvest but we're still seeing malnutrition in Zambia. There is too much starch in diets. We need to diversify crops.

Other issues are climate change, for forestry an issue is the carbon emissions and degradation of the environment and the forest. For the fisheries- they provide good protein and increase production but we must be careful when introducing other species of fish. Livestock have endemic diseases and there is only a little funding. There is PPR in goats and the last outbreak was in Tanzania and we had to make sure it didn't cross over.

There is good beef production but we need to protect the industry. Zoonotic diseases, such as tryps affect livestock, wildlife and humans. The veterinary department looked at this but capacity is not up to date. It needs to be strengthened by more funding. There is good economic growth in Zambia so some can be funded from the government now. There are lots of sectors doing well.

There are voluntary guidelines for land, forestry and fisheries.

We don't fund anything right now on tryps. In the past it was more of a focus. There are tsetse free zones- this is to avoid tsetse crossing from one zone to the other.

We are working with Malawi, Mozambique and Zimbabwe. It is a regional project with some success.

We need to push the government to finance their own programmes more. They need to meet their obligations. Tryps should be a priority. They have no capacity to do anything for tryps.

One issue is that retired professionals were not replaced. These were people that were highly regarded. There is a big human resource issue.

Control options that work are trapping with nets to clear the flies and ensure no reinvasion. They can reduce the tsetse population to 1%. Chemotherapy reduces tryps in animals.

The vet department should work on tryps/tsetse.

We work with the WHO and other organisations to combine efforts and also with the Ministry of Health.

It is important to prioritise tryps because it has economic importance. It is much more important for animals. The reason we need to control tryps is because of its effect on animals.

If there is a sleeping sickness outbreak it would trigger a reaction from the government but for animals they don't take it so seriously. If there was an outbreak the FAO would form a task force with the WHO, the government and make a plan to tackle the outbreak.

PATTEC does exist in Zambia but presently there is a lack of commitment from the government to provide funding and tsetse free zones etc.

Conservation farming and agriculture- there is minimal tilling of the land and not much soil degradation. The yields have increased from 1.3 metric tons per hectare to 2.3 metric tons. There are lead farmers and it works and increases production. We need to diversify for nutrition and there should be enough for the whole years and enough to sell. Some produce goes to waste because there is no access to markets (*this was commonly repeated when we were doing fieldwork and having driven to Mfuwe this is definitely the case- the nearest markets can be very far away*). Zambia needs more infrastructure and research.

Interactions between wildlife, livestock and communities- zones and importance of wildlife and cattle for farming.

There is a debate saying that the tsetse fly is a saviour of the wildlife.

Schools, health centres etc are paid for by money from tourism, so it is important to protect the wildlife. Zambia has lots of land and has fenced off a lot for game reserves- more than other countries.

The whole of the country has northern focus- areas of low productivity- good soils and high rainfall vulnerability. Government collaborative projects on disease surveillance and technical corporation problems- if they ask sometimes the FAO can fund.

Interview C, Private Sector

I don't know about sleeping sickness/tryps. Wildlife is not affected by it.

It is all about economic revenue for the veterinary department for disease control.

There is unregulated informal trading going on in the background, only big industry has to get permits and do things properly, it is a money making scheme. They charge for the tests.

Local people believe that the animals belong to the country, so they can use them. They believe that no one can own the animals.

Elephants raid crops so there are uses for control.

There are 140 registered game farms. Most are small and this is less conducive to investment.

The new laws on hunting have had a big impact as hunters are mainly from the USA and they don't want to hunt in game farms, they want game management areas (hunting has

just been made illegal on state land). This means that less people come to Zambia because of this.

This is the big issue, not sleeping sickness; sleeping sickness does not affect tourism.

Background- He and his wife are both vets and they came to Zambia to do domestic practice as part of this they used to dart wild animals. During the winter season they now work full time on wildlife movement. This involves selling and moving animals from one farm to another. These are a source of animals and they also supply the wild sectors.

As poaching is so severe the government buy and move animals from game farms to the national parks. This is very random wildlife management and not well thought through. There are no effective policies.

Police often benefit from poaching so they don't prosecute people, there's corruption and even though the law provides good punishment it is very seldom applied.

In African parks there's a still lot of poaching and so there's constant problems. Private investors can help to rehabilitate and game parks bring millions of dollars.

Tsetse are still the biggest obstacle to wild areas being taken over by farmers and cattle. Tsetse protect the environment and stop farmers encroaching on land so I don't want tsetse control. Farmers move into areas and then hit the tsetse zone and cattle die. This protects the land. The flies move though, so this affects things.

The main health problems are HIV and malaria, trypanosomiasis isn't on the radar.

Interview D, Union

This is part of a member's based farmer's union.

We work on advocacy and strengthening the capacity of smallholder farmers. We lobby and advocate membership services, information, market production and technologies. We help farmers to understand contracts and their role. We cooperate, invest in farmers and build capacity. We also look at the link between farmers and technology through the cotton development trust, conservation farming and stakeholder meetings. We also disseminate research results. There are also farmer exchange visit programmes. We speak to the government and are an honest broker.

Multinational companies are powerful and we depend on their honesty and transparency. Farmers are not happy with the prices. There is volatility of prices and farmers can't understand why they are different one year to the next.

We are donor funded and receive no government funding. The funders are two Dutch organisations and the conservation farming unit. There is a rural finance programme.

Farmers look for business opportunities and are self financing. We look at income generation opportunities e.g. gardening, selling fish etc.

There are 450,000 cotton farmers in Zambia. They are mainly in Eastern, central and Southern provinces. They are mainly families of farmers- the husband, wife and children.

We have a gender person employed here to get women to show their potential. 63% of cotton farmers are women but men claim authority so this goes down to 45-47%. Children help out. There are no commercial cotton farmers- it is all smallholders. The farms are normally 1-5 hectares. Only some are 10-12 hectares.

We encourage cotton based farming- this means that cotton is the main crop but they grow in rotation. They have cotton for cash, but maize for food security, legume for soil fertility, and soya beans. This is so farmers don't put all their eggs in one basket. There is also cattle too.

When foot and mouth disease strikes a lot of farmers lose out and hectares of cotton grown is reduced (because don't have cattle to till the land). If you have more cattle it is easier in terms of labour. If you don't have them then you have to rely on tractors which is expensive etc. If an animal falls sick from anything then you get a lower cotton yield and are forced to reduce the hectares you can grow on.

Migration from southern province, change in climate, deforestation, delayed planting, flooding are also issues.

HIV/AIDS is an important health issue. If the husband is sick then the woman can't go and work in the fields as she has to look after him. If the woman gets sick and dies then you lose the cotton producer. So both is bad. If you lose a woman to any illness then you lose a cotton farmer.

Background- he has been working in the cotton sector since 1979

We do some health work for HIV/AIDS. This is our focus disease.

Tryps is an issue in Luangwa, Zambezi and in the southern province. I don't know much but there is tsetse in the Eastern province. I worked in the Eastern province for 12 years in the Choma district (north of our field site) and there is lots of tsetse. It is mostly Malawians? (I think here he was implying Malawians get bitten by tsetse more than Zambians). We had to carry pieces of bush to flick the tsetse away- there are many of them.

Tsetses are attracted by the dark, dark colours. White people are OK!

I only saw one or two people with sleeping sickness in 1985-86.

There has been an increase in cotton farming from 40,000 smallholders in 1996 to now 400,000. There are 1-8 people on each farm, so there are 8 times more people than 400,000.

Cotton farming doesn't attract government interference whereas maize does. The growth has gone from 71m kg → 145m kg → 275m kg. This growth is all private, no form of government support.

The textile industry has collapsed though. All the cotton is exported to be used. Farmer's children cannot get jobs but cotton has produced jobs for the next generation in Bangladesh. The textile industry is high tech and too expensive to set up. The Chinese control the

international cotton market. Bangladesh produced fabrics and the cotton growers in Zambia have to wear second hand clothes even though they produce the cotton.

Why has cotton increased? Farmers traditionally grow maize but maize marketing has been flawed. If you can get large volumes it is better. All companies have incentives and have agents working for them. They pay for every kg and they pay at the right time of year, when farmers need money before the maize crop has grown. If it is high prices one year then you get an influx of farmers and the cotton companies attract farmers with their pricing. People who leave school who don't go to urban areas are attracted to this, it is a way to stay in a rural area and make a living.

Conservation farming tries to be less disturbing to the soil. Only disturb the place where you grow the seed. Soil cover. There is not a lot of support for this on the ground. Yields improve by 49% when you use conservation agriculture.

You need oxen to grow cotton and there are lots of challenges to adapting conservation agriculture. You need access to the tools. You need to address land degradation which is very high and address climate change.

There is a government land use department- but what do they do? They don't help. They may not even still exist (it does).

The issue is people grow anything anywhere, they cut trees, there's no discipline. People do what they like and there's no environmental protection.

Up until 1980 there was planning and people looked at water and where to grow things. There used to be tree planting and there were scouts to stop people cutting down trees. All this has now gone.

There is tons of charcoal now being produced. We shouldn't cut down so many trees. It is all being exported to South Africa. We need positive and practical action.

We could become prosperous if we could sell beef. People could help themselves. There is unrealised potential of beef and livestock. However, there is no discipline to want to move on from traditional herdsmen to record keeping, dipping, vaccinating, inbreeding etc. There is no one to change them to the modern way of thinking. Disease cannot be stopped by being bought, it knows no corruption.

The Cotton Board of Zambia was established in 2009 and represents all companies. The government have official statistics. Cotton Board of Zambia board secretary is Dafulin Kaonga. Contact details given.

Cotton fertilisers kill tsetse- does this have an effect on tryps?

Animals can be fed leftovers from cotton production but the farmers can never buy this as they can't separate it from the cotton at farm level. This waste product from the cotton would be really useful for the farmers. We could have active villages within the cotton industry- we need oil extraction plants. We could crush the cotton for cooking oil and have the cake. This is sold to big dairy companies. Smallholders don't have access to it. When they sell it they get a premium of 10 cents but this doesn't come back to the farmer. Zambia

was paid the lowest price for cotton, Malawi got better. Farmers got 24% of the value of the crop. The government isn't useful for helping with these issues.

There has been a 51% drop in production but now the price has gone up, so farmers come and go in waves depending on the price of cotton. We need the textile industry in Zambia.

There's no fairtrade cotton in Zambia.

He had a quote on his wall saying- 'the most frightening words in the English language are I'm from the government and I'm here to help'- Ronald Reagan.

Interview E, Charities

Started at WECS in 1989 as education officer. Prior to this studied biology at Birmingham Uni and went on to study at UCL. Half Zambian, half British.

The organisation was started by hunters, so they could legitimise carrying on hunting. In the beginning it was mainly white members, now there are more Zambians. Since the wildlife producers association was started, a lot of hunters have gone to this organisation. It was mainly male membership before. She was chair for a while and was the first Zambian and first female chair (she ran for this position as people were saying there'd never be a Zambian chair, so she wanted to take up the challenge!).

They are not funded by the government. They get a lot of funding from the WWF (an important funder) and BATA, a company. They get money from the camps they run and membership fees, it is volunteer run with a few paid posts. They are currently mostly focused on education for different ages. They have a magazine called Chongololo (millipede) for grades 8 and 9 and they have regional branches carrying out work all across the country running conservation clubs (part of this is arranging for school children to go into game parks). This is ministry of education supported and they also have a radio programme. They believe by educating the next generation to look after the environment they can protect it.

Some previous themes have been on poaching being bad, cutting trees being bad and thematic areas such as the wetlands. They also had an issue on the tsetse barriers explaining them. There used to be liquid washes for people to drive through, and you had to get out of your car to wash your shoes in it. Tsetse barriers are not as serious now as they used to be. Now when you drive through no one stops you as much. The organisation was neutral about these barriers and had no opposition for them. Tsetse control wasn't perceived as particularly positive or negative.

They have wildlife camps across the country too, for example David Shephard camp in Kafuwe national park and one in Luangwa, Chipata, Choma.

ZAWA provides some funding for parks and the GMAs have community natural resource projects, so there is some benefit to local people from allowing hunting.

In the 2000s she was on the environmental council of Zambia, on the project approval committee looking at environmental impact assessments. One was on tsetse spraying (possibly DDT??, or at least some substance that had been banned). Approval had already been given by the government before the environmental council could look at it. There were two government departments arguing over the best approach and the council could not properly do their job as it was all being decided above their heads. At this time tsetse control was perceived as negative and different stakeholders were arguing over the impact on people and wildlife. The minister of environment can always overturn the environmental council. At this time the environmental council was seen as anti economic development and bad because they delay things. Another area the environmental council looked at was land use and change of land use permission (which was needed for large changes).

Other areas WECS were involved in was Operation Noah to rescue animals displaced by the Kariba Dam. Anti poaching, Rhino trust to save the rhinos (this failed), wildlife protection, world environment day, education to protect the environment, tree planting every December, they became involved in climate change thinking before it was popular and started looking at greenhouse gases, paper recycling.

Government priorities are not tryps, they are HIV and malaria. Historically HIV was stigmatised so it was a new focus. When the president's son died of AIDS then it was talked about more and there was lots of donor funding. People are interested in where the money is and the focus depends on what donor money is for. Malaria is more prevalent than HIV. TB is also talked about, but mainly in relation to HIV. Cancer has become more of a focus. The current president's wife is a doctor and one of his nieces died of childhood cancer. Lifestyle diseases are becoming more prevalent. Diabetes and blood pressure and epilepsy (trying to destigmatise as there was lots of stigma). Saying that diseases focused on is not based on research but on the issues important to those in power.

If people have a fever they automatically say it's malaria. Tryps is not publicised or talked about. Even questioned if it really exists in humans. If you asked urban people about tryps they would not know about it.

Cotton producers have had a bad time. They were recently offered a price for their cotton, then spent lots of money on this and then didn't get the price they were previously guaranteed.

How disease control priorities affect communities → national parks legislation came at the same time as tsetse control. Both came from outsiders and had colonial influence. Neither are Zambian. Hunters wanted to protect the land and their businesses and this is why the national parks were made.

It is useless for outsiders to come in and say, don't use the trees. Local people know how not to deplete their resources and they have the knowledge to protect them and not overuse. Outsiders do not have this knowledge. However, now this has changed a bit and we need to protect some resources e.g. the rhinos.

Zambia has one of the highest deforestation rates in the world and this is driven by charcoal. People in urban areas are not connected to electricity so they use charcoal. It is urban dwellers driving deforestation. The end users get the benefit but the producers make very little profit, there is not much economic benefit for them. Need socially sustainable charcoal (interesting ecosystem service quote). Reforestation is needed to try and benefit them too. Ask [further contact given] about REDD.

It would be good to speak to the veterinary students at UNZA (and showground vets) and [contact given] (COMACO). She said he is a controversial figure and some projects he has done have been shown to be exploitative (others during the trip have praised the products they produce and how more fairly traded products now exist across Zambia).

Community based natural resource forum- [contact given]- used to work for the wildlife society. He knows about wildlife and was the executive director. Make sure you speak to indigenous Zambians as well as others as they have a completely different view.

Zambian tourism exploded 10 years ago. Suddenly there were hotels and malls.

Interviews F and G, Charities and Academia

Tsetse are keeping the area natural and wild. Desmond Lovemore got rid of the tsetse and lots of cattle were moved into the area. The Zambian government do not have the resources to keep areas tsetse free.

It took them 2+ years to do anything about foot and mouth.

In the southern province there are huge herds of animals and they need to stop their movements. They were unable to stop the movements and were failing to control even at senior level. RDP livestock services kept out bovine trypanosomiasis.

Projects can keep systems going but when they leave everything stops working i.e. when donor funding runs out and everything is handed to the government it stops functioning. The history of livestock development is better when there is external help.

Lilongwe to Lusaka there was a drought in 1991-92.

At the Mozambiquan border you could see the trees start- they had deforested the southern part. Zambia had lots of refugees from all around.

Charcoal is a big ecosystem issue. Lots of neighbouring countries have depleted this resource. People from all over the world from Zambia, yet Zambia imports from South Africa. The charcoal problem is spreading a lot, it is an urban fuel as in the villages they use wood. The power in urban areas keeps failing so they always have charcoal on hand to use. There is no substitute, it is cheaper than electricity. When the trees are cut down, people plant cotton. Sometimes people cut down trees and don't know what to do with the wood as they don't want it.

AMATAOEN- commercial farming. It is state land that they're getting. It is government policy to open a farm block in every province- state farms.

Core venture that's commercial then outgrowers around it but 100,000 hectares of vacant land is not available in all provinces. Old farm blocks have changed and there's international capital which is Wall Street funded where they buy up brown farms (underutilised) and put under a scheme.

Huge companies affect smallholders and there will be changes. Can buy more, easier to get inputs.

It's businesspeople that run this, not farmers. They include [contacts given]. It's a business venture with German funding.

Unsure if growing rice is a good idea, is there a market for this? They can't compete with others and need the right conditions for this. COMACO, It's Wild produce is better quality and flies off the shelves.

There are too many short projects, that's the trouble e.g. for eucalyptus you need a 5 year input. EU project on cashews didn't work. We need more tree projects. New Zambian government has more influence

[contact given]

Local government has been there a long time, since the British left and it is a native autonomy based system of chiefs. We need to manage the rural areas.

Kaunda came into power and wanted to get rid of chiefs- the structures and the local courts.

Village development committees are affiliated to the party and went into the party structure. This replaced the traditional with the political but didn't work well.

In 1991 multi party democracy came in with the first multi party elections. This was a change in the political structure.

There was a proliferation of committees, health, agriculture, sanitation etc. It is the same people on all of the committees. They need to harmonise the committees.

Now they are putting it in the local structure and have been trying for the 10 years and it's only this year that it's become effective at the sub district. Failure to manage how things should be done on the ground.

From the mid 70s to now there has been no rules about what people can do in rural areas, people do what they like- take land, shoot animals, burn trees and there's no means to control them. They use the wood for charcoal and to make coffins and this affects the ecology.

In the late 1990s mining started picking up- this was when copper prices went up. Now it is economic to export.

In the mid 2000s it was really wild. The Chinese came in and they went everywhere and exploited the system and lack of controls and oversight. It is really bad. They use chainsaws to mow down entire forests in a week. They get license from headquarters which are corrupt and no one can stop them once this has happened. The forestry department is corrupt.

There was a Zambian woman in charge of forestry and everyone wanted her to leave for 20 years and now she's finally gone.

Backgrounds

White Zambians and black Zambians all got on well; there were very few white Zambian. When Guni arrived in 1998, there was no aggression, people were just curious. When she came back from Zimbabwe in 2000-2001 people held back more.

He and his wife came to Zambia in 1966. In the early 1960s in Zimbabwe he did spraying (to control the tsetse and make it attractive to people) and mapped out and build a road to open up a new area for settlement. In (Gokee- check), Zambezi Valley. No one wanted to come to remote areas.

There were game fences and cattle fences and every mile there was a hunter to shoot everything that came over the line.

A German vet [contact given] took blood samples from the tsetse and this opened up a new world. He worked out which animals the tsetse feed on. The mositans on warthogs and the glossina on bushbucks.

On Lake Kaminika in West Africa- there are 4 species of tsetse, they prefer different animals e.g. one prefers humans and one prefers hippos.

Nothing ever feeds on eg. Baboons so shooting all these animals was irrelevant as the tsetse didn't feed on them.

If the trees are cleared then you get grasses. This is the main diet of the warthog, so if you get more grasses then you get more tsetse as they like warthogs.

The most effective method for getting rid of tsetse is aerial spraying but the tsetse were low then anyway. If you leave any pockets of tsetse then they come back.

Indigenous cattle have bloodlines from at least 2 migrations, one east coast and one west coast.

It is the government trying to clear tsetse- no outside organisations. They cleared the tsetse so they could use the area for settlement and for cattle. When they built a dam in the valley they tongo people had to move out and they moved people to an unsuitable area. They lost the best soil and a good area.

In Zambia they do big schemes and if they don't work then they just carry on. There is no evaluation. Population growth is one of the main drivers if nor the driver of what's going on.

In the late 60s-64 contraception was forbidden and the population rose from 3 million to 13 million. This was the work on Kankasa, the women's affairs politician. She has since said it was the biggest mistake that she ever made. There was a lot of urban growth and in 1973 there was the oil crisis which affected mining. There was return migration and people went back to farming. There was the back to the land policy. In the 60s there was negative population growth in rural areas and good resources with 5-6% rapid growth.

Gerald Pope and John Timberlake will have lots of names of specimens, administrative maps and locations and boundaries.

The Eastern Province focused a lot on land use planning.

There has been some eradication of people to turn areas into game parks. They evacuated luapula and Zambezi valley whether people wanted to go or not.

There was very good fish survey in EP in the past- did trapping

Tsetse barriers have a social function, like a marketplace and they are also a reference point for people but there is no use or point of them for tsetse flies. Fly gates are completely useless and are only there so people can show that they are doing something.

Tsetse populations are so minute that you need to get a good attractant.

Blood smears are much easier to pick up- tip for survey

Copper and gold mining affects ecosystem

Mburuma people and Mpani knocked out by elephant. There lots of npala.

Two more interesting vegetation types have gone. There is so much food in the river-green lagoons. There are big bare areas- terrific erosion and animals don't climb the escarpment.

Need public- private partnerships to manage the parks. All people have been moved out.

Mana Pools- Zimbabwe there is a cattle fence one side and a wildlife fence the other side. The escarpment is too high to go over. Would be a good world heritage site.

Mining brings roads and new people. This is what causes the problem- not the mining. For example, there are 3000 village people with no clinics etc for them. This will happen in lower Zambezi. If you have a project, then people are going to start a township and come with the families and start cultivating. This means that you'll never be able to get rid of them from the area afterwards. It fundamentally changes the landscape and mines affect local hydrology.

Read 'The role of trypanosomiasis in African Ecology, A study of the tsetse fly problem by John Ford, 1971.

Environmental and social impact assessments have to be done for big land use change. This considers what will happen when you bring a lot of people somewhere. Local people make decisions based on disease.

Interview H, Government

It is a big challenge to provide services to farmers. ¼ of the animals have tryps (500,000). Funding is a big problem.

The major emphasis is on cattle, this is the biggest threat. Most cases of human tryps are not confirmed. The ministry of health deal with these, we don't look into this. Our big focus is that tsetse free areas stay tsetse free.

We want to help expand the areas within Zambia that can be used for animal rearing; this will be good for people. There are very few operations going on though. We can only treat the animals, but it would be much better to control the vector of the disease, but we don't have the finances.

When we applied to the government for finances, only 30% of the budget we asked for was approved, and we only actually received 10% of that money (he meant that they got 10%, rather than 30%).

It is hard to meet our obligations without the funding, and we have to rely on surveillance.

The fly population has been expanding. In the south, areas that were once tsetse free now have tsetse flies in them. This is a great shame as this were previously very productive cattle rearing areas.

Tryps is regarded as a forgotten disease because of the way it manifests. It takes a long time to see any effects whereas other diseases you see straight away. Tryps is chronic. Therefore it has not got the attention it deserves.

The government can't fund adequately. In the past we relied on donor funding but the projects have come to an end. In the past the European Union funded a tryps and tsetse control programme. It aimed to eradicate the fly from the copper fly belt. It involved Zambia, Zimbabwe Malawi and Mozambique. Then this programme changed to controlling, rather than eradicating then stopped altogether. It is hard to undertake sustainable tsetse control.

By 1992 a lot had been achieved but funding ran out and the project was handed over to the government. Now areas where the fly was eradicated have become populated BY FLIES AGAIN. The EU pulled out. The Dutch government did fund a 3 year project after this. We had funding until 2006 from the Zambian government then this came to an end. Now we can only do surveillance. We try to target the vector with very little funding, but it's hard.

The best method for dealing with tsetse is aerial spraying- this is very expensive but very effective.

Targets work quite well but they only suppress the fly. When you go for control you go back to where you started from. We need to eradicate the fly, so we can clear areas and do surveillance.

We have a 3 year strategy plan up to 2017 (this is what he said even though that's 4 years from now). We show this to donors to help us get funding. You can easily get a copy by contacting [names given], the chief tsetse control biologist, you can ask for it.

Funding has really been dwindling over the last years. Now activities are funded on a regional basis. Funding is decentralised right up to the lowest level. This is very difficult for tsetse control; it makes it very difficult to make an impact.

We really want to start aerial spraying in the next few years. We want to do 5,000 sq km to 10,000 sq km. We just need to get the funding to do this.

Yes, there's lots of collaboration with the Ministry of Health but our role is limited to animals. If we get human cases then we work with the MoH (felt he meant to hand the case over to them, rather than work together), UNZA, Institute of tropical disease,

scientific research organisations. We all meet together from time to time to exchange notes.

When the fly spreads it stops areas being productive. People have to move away into marginal and unproductive areas. This means that poverty increases and livestock numbers go down. This is a vicious circle and poverty will go up if people can't own livestock.

Livestock is very critical for livelihoods. Without them farmers will be poverty stricken and dependent on the government. They need help and are dependent on food relief (when we were in Eastern province we heard they'd been earmarked for food relief). Fertile areas become no go areas because of tsetse. If we don't deal with this problem we will depend on donors to feed our citizens. There are lots of competing needs though.

There have been changes to the environment, cotton growing has increased. This means that vegetation that supports the fly and where it lives goes away (is replaced by farmland) and this pushes the fly away. There is a link between an increase in farming and fly reduction. With new settlements the fly is pushed further away from people. There is less tsetse now because the flies have gone.

Most control methods are very environmentally friendly. They just target the tsetse fly and spare other insects.

We need to utilise tsetse free areas as keeping them used helps to stop the fly thriving. So, if an area is eradicated from flies, we must use it to ensure it stays eradicated.

The tsetse control department care a lot about the environment.

I have worked for 18 years in this department. I have an animal science background-entomology and tsetse control, livestock nutrition and production. Alongside my job as a biologist, I interact with farmers on nutrition for the animals and other things. They have multiple needs and we look at these.

PATTEC is active in Zambia. We have a PATTEC coordinator for Zambia, it's Chilango. This is captured under our national strategic plan (mentioned earlier in more detail).

We can achieve very little just from the government funding. We are trying to get funding from the African Development Bank. We do an exchange with the Addis Ababa office and have regular meetings with them. The PATTEC coordinator is based in our tsetse control office.

We really want to do capacity building and we want to have as much information on new technology as possible. We would be grateful to hear the results of your research and will stay in touch with you also about our developments.

Interview I- Academic

Discussed PhD research and current situation. Agreed with others' opinions. Discussed fly gates. He travels a lot in the region. He stopped a guard at a gate and was told they had only

found one tsetse fly this year. He gave the impression the guard also did not think the gates were working.

Interview J- Academia

Interview K- Charity

Interview L- Government

Interview M- Government

Interview N- Government

Interview O- Private sector

Interview P- Academia

Interview Q- Academia

Interview R- Academia

Interview S- International organisation

Interview T- International organisation

No focus on trypanosomiasis. They discussed different issues during the interview. However, they did emphasise that the Zambian government should choose what happens and international organisations are there to support this and not dictate.