

University of the Bush
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SEMINAR 2: PASTORALIST INNOVATION, Ian Scoones and Andrew Adwera

Session 1: Led by Ian Scoones of the Institute of Development Studies, UK

Introduction

Nura Dida

Ian Scoones talk about how people cope when problems arise and how people innovate to handle difficulties or problems.

Ian Scoones: I work a lot on livestock and range management, mostly in southern Africa and especially in Zimbabwe. I am working together today and tomorrow with Andrew Adwera who is from the African Center for Technology Studies in Nairobi.

Session 1: Introduction to Innovation

In today and tomorrow's sessions we will focus on how things change, how people confront problems and how people get access to different types of knowledge to address these problems. The knowledge comes from scientists, it comes from business people, it comes from traders, it comes from producers, like pastoralists, and it comes from consumers – it comes from many different sources.

Pastoralism has existed for thousands of years and it has always faced challenges and always adapted and changed. So what about today? During the sessions on Mobility and Land Tenure we came up with a long list of challenges and problems as well a lot of different solutions. We have also heard how useful research can be sometimes, although sometimes it does not get used by the people who need it or the people who can make changes. We sometimes end up with poor, incorrect or out of date information, bad policies and inappropriate suggestions.

So how can pastoralists make best use of science and technology? In particular, how can pastoralists link with scientists to work better together? How can the best of local, indigenous knowledge be combined with the best of scientific knowledge? And lastly, how can we make sure that all this gets used by people who need it and live far away from the capital cities.

In English, we call this process of finding out new things and responding to new challenges, *innovation*.

There are many different ways of thinking about innovation and many different ways of organising innovation. It is currently a very big debate internationally about how science and technology can assist in development. Last year, science and technology ministers from right across Africa met at the African Union in Addis Ababa. They came up with some declarations on the way forward for Africa. They said what needs to happen is investment in new research laboratories and they said what was needed was a lot of new science and high technologies which are used in the West to be

transferred to Africa. They also said that there was a need for more doctors in science in Africa. And only then was Africa going to be able to compete with Europe, America, India and China in order to build economic growth.

We have to ask some questions about this type of approach. What is the most appropriate approach for African problems? Who benefits from this type of approach? What is the experience of the type of approach promoted by the Ministers at the African Union?

The ministers were arguing for a very conventional approach to research and development. Some people call this the '*pipeline model*': The pipe starts with the scientist in their labs. Then, the scientists come up with their ideas, their experiments and then new technologies are produced. These technologies are passed down in the pipe to extension workers or to business people and on in the end to the users at the end.

In many respects, this is a one-way street: Scientists are in charge, and hopefully the users at the end get something out of the pipe. This has been the standard way of doing things the whole world over, including in Africa. A lot of money is spent particularly on the science end, but much less is spent on making sure that ideas and materials get out and even less is spent on getting ideas from the other end of the pipe to the scientist. Usually it doesn't work very effectively.

There is now a lot of research which has looked at how scientific ideas and other ideas get used and it has come up with some important conclusions. Sometimes, these systems work quite well. For example how many pastoralists made use of vaccines for their animals 50 years ago?

Responses

- In our community, vaccination started during the colonial time. If there was an outbreak of something and they wanted to vaccinate, we migrated away from our home. The animals of those accepting the vaccination survived.
- 50 years ago, people did not let their animals be immunised, because they assumed if the animals were immunised, they would all die.
- 50 years ago, there was no vaccination in Ethiopia.
- Vaccination came to the area around 1956. That was vaccination against Rinderpest. People benefited after that because the pest had been eradicated.

And how many people vaccinate now?

Response

- Now, 50 years later, there is vaccination in place in Ethiopia but people tend to not take their animals for vaccination because it is a way of imposing taxes.
- On the Ethiopian side, there is a high level of vaccination for cattle, but for goats and sheep it is less. And then, there is absolutely no vaccination for the camels.
- On the Kenyan side, we have vaccinations for all animals, including donkeys and dogs.

The vaccination story tells us two things:

One, it sometimes takes a long time for new ideas and new technologies to become accepted. And sometimes people fear new ideas and new technology, sometimes for good reasons - because of tax etc.

Two, things happen differently in different countries, because of different organisation, different funding and different priorities in different settings. Those differences very much depend on the way research and linkages with extension and producers are organised.

Ian held up pictures of the following institutions or their logos and asked people who recognized what.

Responses – from different people, but amalgamated.

1. ILRI,

‘A research institute.’

‘I saw the logo on a booklet.’

‘They research livestock and make vaccines. It is based in Nairobi, Kenya’

‘and in Ethiopia.’

2. KARI – Kenyan Agriculture Research Institute.

‘They research pasture.’

‘They have an office in Marsabit, but we have never seen them doing any tangible thing. One day I saw them going around and telling us where they would go for a field trip. If they offer any services, I am not aware of that.’

3. EARO Millennium logo. Ethiopian Agricultural Research Organisation

‘It is something related to Millennium, but I do not know what the millennium does.’

‘EARO deals with agriculture issues only. They have never done anything related to pastoralism.’

‘These days they do have branches in pastoralist areas.’

‘Previously, they were only dealing with crop farmers, and later on when they were trying to do research elsewhere on the rangeland, they found that it does not suit pastoralism. As a result of that they thought they should extend it and adapt it to the pastoralist ecology.’

4. FAO, Rome. *This wasn't recognized by anyone.*

All of these organisations FAO and ILRI at the international level, and KARI and EARO at the national levels spend a lot of resources. Is the way that the research and the linkages to pastoralist working well or are there new ways of thinking about organising research and links to pastoralists that can work better?

There are some ideas that are being discussed internationally about how to rethink the way we go about innovation and making change happen. We are going to this by asking five different questions.

1) What is being changed?

For many years, the focus of that question was around technologies, things such as vaccines, drugs, new breeds, new pasture species. But increasingly it has been

realised that a focus only on technology is not enough. We must look at the way things are organised, the institutions that are important and the policies that allow certain things to happen and certain things not.

2) *How is technology applied in practise?*

For example, Saverio talked about how actually improving the production of animals is as much around the behaviour of those animals and those animals learning that behaviour as it is around the breed and the type of pasture etc. In our discussion about vaccine, it was not just about the vaccine itself, but also how that vaccine got delivered and was made accessible to the people on the ground. In answer to the question 'what' it is not only technology, but a broader question that we need to address.

3) *How are technologies developed?*

In Europe, in the last 100 years the main way of thinking about technology development was in relation to the image of the production line, like cars and anything else. Today, people think about the organisation of new ideas and new products in a very different way and things are increasingly different. There are two American computer and internet companies, Google and Apple, who have organised the way they link science and technology and its use in very different ways.

Q. Can you tell us more about the computer and the internet?

The computer allows you to process a lot of information very quickly. And the internet can then help to transfer information very fast to different places, to different computers. These companies that work with computers for example, organise their staff and the production of their products in a very different way to the way that we saw with the old-fashioned car manufacturers. The result is that they produce products very fast and very regularly and they produce products that they discuss a lot with the people who use them while they produce them.

I think we can learn a lot – not so much about the products that they produce, but about the way they produce them – rethinking the way that we think about innovation in agriculture and pastoral areas.

4) *Who does the innovation?*

Debates about who the innovator should be have changed as well. Before, the assumption was that it was always the scientists at one end of the pipe who were the main people. The assumption was that it was only the scientists who have the expertise, the knowledge and the equipment to do these things effectively. But we have increasingly realised that that is not enough. Actually, the most effective way of doing things is when scientists, and users, and people who are doing the marketing and people who are doing the extension, are doing this together. And that applies just as much to making a computer as it does to responding to a particular problem in a pastoral area.

5) *Where does innovation take place?*

Again, in the past the assumption was that this only took place in universities and in laboratories. The assumption was that if you were going to make innovation

happen, you have to spend a lot of money on the university, the laboratory and so on. Again, increasingly it has been realised that this is not enough; that actually we have to think about a much broader group of people who are doing innovation across many different places. These different places need to be linked together very actively.

6) *Why do we need innovation?*

Finally, there is a debate about why innovation; why do we need new science and technology? Before, there was an assumption that new technology always brings economic growth and therefore more development. But increasingly the discussion is about ‘development for who? development for what?’ Then the question is what type of innovation will help particular people in particular places. And that relates particularly to pastoral areas as we have discussed.

All of these shifts in discussion about approaches to innovation have been widely debated over 20-30 years. Recently, there have been a number of important reports that have made this argument.

One report, for example, written by the World Bank on agriculture and research, concluded that despite all the money being spent by the World Bank over many years on agricultural research, innovation is rarely the result of agricultural research but more often a response to entrepreneurs, business people and changing market conditions. They also concluded that the reason innovation was not happening was because of (1) a lack of interaction of the people involved and (2) the habits and practices of the organisations involved; So, they recommended a major shift in the way things were done.

Another report, this time from the British Government, investigated 10 years of money spent on research, mostly in Africa. They asked, after spending \$150 million, why was so little technology used? Their conclusion was very simple and very obvious: Both the users and the suppliers of the research have to be involved in the research, and they had not been.

The third example is a report from the UK, which looked at innovation in the UK and asking why there was so little innovation going on there. What they found is that actually there is a lot going on, but it was not being noticed. A lot of the innovation was informal, and not recognised by official organisations and was about changes in organisations, changes in behaviour and changes in the ways people do things. What they concluded was that actually there was a lot going on, but it was not being reported and that it needed to be recognised to make things work better. They therefore argued that instead of the traditional “pipeline” way that innovation is recognised and organised in the UK, they needed to shift to recognising this more informal and flexible system of innovation in organisations and elsewhere.

So have things changed?

We have all of these debates, all of these reports, all of these discussions, all of these findings - but have things changed? The answer sadly is: Not much. But there are some important signs and some important cases which I think we can learn from.

Participatory Plant Breeding

The first is the experience of what has been called ‘participatory plant breeding’ which is where farmers who are using different types of crops join together with scientists to choose both the crop that is being researched and the traits that are being chosen and to evaluate them. This does several things. One, it allows farmers who are using those crops to get into the research station and also, perhaps more importantly, researchers get out to the field and to see the real conditions that are happening. This approach has been used on many different crops, particularly in Asia. The results have been very positive. What happens is that the crops that result are more accepted by farmers and they often spread very fast very widely and extension is not a problem because the product is very good. And very often, new arrangements and new enterprises have emerged from these linkages which then package and sell the seeds.

Despite these successes, this approach is still not very common in many research systems. This is because of the way research systems are organised, and the way funding flows for different types of research and the way that incentives for researchers are organised. And actually there have been very few examples in the livestock sector and in pastoral settings of this type of approach anywhere in the world. But I think there are some very important lessons that can be learned and we should learn them and share experiences from these other cases and bring them into the pastoral research and development system.

The Honeybee network

The other example I want to give is the ‘honey bee network’. This started in India, but now has spread to a number of other countries. The idea around this is that people with practical problems come up with practical solutions. Those solutions maybe the result of local knowledge, or they maybe the result of scientific knowledge or, more often, they are a combination of the two.

But very often, people do not know even from one village to the next, let alone one district to the next, let alone one country to the next, that the solutions have already been solved and that somebody else is facing the same problem.

But the value of the network is that people can share and make links. So what they do is if somebody has discovered a solution to a problem faced, they either write it down or take a video of the practice and share it with the network, translating it into the local languages, transmitting it through the TV and the radio and providing information to different people.

Somebody in one part of a country can make a discovery, transfer it to another, they adapt it, make it better. Then somebody else learns about it, adapts it again and again, developing a process where new things happen.

The honeybee network now gives an annual prize for the most exciting local innovation. The innovator gets on TV - it is becoming increasingly a recognised place where innovation happens. And increasingly scientists, engineers and others are becoming involved in the network as well. The ‘honeybee network’ works on agriculture, livestock, transport, processing – everything. Is there a possibility of a similar type of thing in pastoral areas in this part of the world?

One way of thinking about innovation is thinking about the links between trees and bees. An innovation system needs a strong tree with roots and sources of nutrition and funding. And that we can think of perhaps as the research institutions, the businesses, the donor institutions and so on. But without the bees that buzz around and pollinate the tree, the tree would just die. What we need is both the trees and the bees. The bees to provide the pollination, processes of new ideas, new ways of thinking, new questions to be asked - and we need them to group together. But too often we only think of the tree, and forget the bees. Different types of support are required to keep the bees buzzing, to keep the bees interacting with the trees, and to keep the whole system working.

Session 2: Responses to Problems

Now we are going to look at responses to animal diseases; animal production and breeding questions and questions around fodder and range management – some of the things we have already identified as important. But we are going to go beyond saying what the problem is, to saying how are we going about it to solve it. Hopefully some sharing between different groups will give new solutions and new ideas.

All the people split into language groups to discuss a particular challenge they face and who they network with and how they innovate to solve it. The presentations of two groups follow.

Kenyan Oromo Group: Dealing with Drought in Merti

In Merti Division, which is in Isiolo District, when people start to see signs of drought towards the end of the dry season, a group of elders meets to discuss the situation. They discuss in cooperation with a pastoralist organisation to which all pastoralists in Merti belong. The organisation is called Rangeland Users Association, or RUA. The elders sit and discuss and mandate RUA to lobby for support from other organisations. Then the management of RUA liaises with Arid Lands, now under the Ministry for Development of Northern Kenya And Other Arid Lands, CORDAID, the Constituency Development Fund (CDF) and others. They lobby to get funds from these organisations in order to construct boreholes in the drought reservoir zone.

While RUA is doing its own job of mobilising ways for the animals to reach the distant places where grazing is found, elders able to read intestines or stars and calendar experts are consulted. They advise on what the future will bring; whether the rains will come and whether they are going to be small or big.

After these consultations and while the animals are still in the drought reservoir zone, the deliberations of the elders still continue. The elders also consult the elected leaders, like the heads of local administrative units and MPs. These consultations are important especially if the pastoralists will need to move to areas outside their district to get better grazing. After the consultations of the leaders up to the MP [level], the elders and the elected leaders will go to the neighbouring district officials before the animals move to that district.

Occasionally we have to look far beyond Kenya, crossing the border. The same elders and government officials, who were engaged in consultations with neighbouring

districts, will now have to discuss with the leadership of areas in neighbouring states like Ethiopia. Here, for example, consultations will have to take place with officials of the kebele, woreda and Oromia Regional State on the government levels, and with the [traditional] Gaada-system, OPA and other leaders working with officials [in this area].

The primary concern of pastoralists is not about what they eat. They first look at how they can assure the safety of their animals, how animals will be rescued. The issue of [food] relief comes later, after the animals are safe.

Once the animals are in a better place, we go back and talk to the chief, the DO, the MPs to link us up with the DSG [District Steering Group] that discusses issues of strength and prices in the district. After the elders at the grass-root level talk to the district committee, the latter sends a message to the national food steering committee. That is when the message is spread across agencies, and to the Office of the President. That is when the President may announce a national disaster to look for more aid.

There are also aid agencies who want to take food to the communities. They are lobbying the National Steering Committee and the DSG for the mandate. There is a NGO called Drought Management Initiative that works with RUA on how to support livestock. They come very late, that is why it is given that rank.

Media is also not very close to the situation in Merti. Media comes very late, like relief agencies. However at present, the situation is different – the food [relief] agencies are trying to come even before the elders are consulting each other or asking for it. Whether there is a drought or not, they [the emergency relief organisations] create the situation that there is hunger time and come with food aid, but when the elders discuss, they say let us forget them and talk about our own will.

So there are two separate systems that operate in times of drought. One is our local system which takes into account the reality and mixes traditional strategies with modern ones through RUA etc and the second is the one the Government and aid agencies put in place, which doesn't necessarily take into account the situation as we see it.

How can we improve on the current situation?

We have a huge area of land, but very few water points and grazing areas. We have to search for more water points in the drought reservoir area. There are places with plenty of pasture, but no access to water. Boreholes should be sunk in those areas with good grazing then we will not have to travel so far into other districts, to find good grazing in times of drought,

If all planning is done centrally, by the pastoralists themselves, the pastoralist elders will lead all the other people in planning and all these problems will be solved.

Our land is not well managed; grazing patterns are not being checked. The best option is to put in place grazing patterns and there should be grazing blocks. If grazing is not done haphazardly but with a plan and in an organised system, the issue of depleting pasture to quickly will be reduced.

South Omo and Gambela, Ethiopia: Dealing with Livestock Disease

A cow might contract trichomoniasis. This is a very common disease in our area. When the community realises that the animals are affected, they consult each other and other communities in the neighbouring area.

The first stage after that is to go to the traditional healers. It is common to use the roots of trees or plants, or leaves of trees, to heal the animal.

After that, if the animal is still infected with the same disease, pastoralists go and buy medicine/drugs from the market, either in the informal or the formal way. They buy drugs because they know the symptoms of these [common] diseases. For instance, the symptoms for this disease trichomoniasis, are that the affected animal stops giving milk, has tears in its eyes and its skin shrinks. The pastoralist will tell the symptoms to the person selling the drugs, who will sell them the required medicine. But the pastoralists do not usually check whether the medicine is expired or new. They do not consider such things.

If the animals continue to be affected by the disease, the people go to report it to the extension workers, who work for the woreda (district) government. After reporting to the government, the government will take the case to the laboratory and find out whether the disease is correctly identified or not. This procedure is long and it takes some time before pastoralists get support.

If the situation is very bad, the government also gives the laboratory results to the media to try and lobby for support from outside organisations. The next people to become involved are usually the local NGOs. They come and assess the situation and if they find it bad they report to and request support from the international NGOs and tell them to go down to the communities and give them support.

Often people buy drugs from traders who come from Kenya and Sudan. We don't always know where the drugs are from. Some NGOs or experts train local people who can then penetrate the information into the community.

Scoones: The group have identified at least three gaps in the overall system. The first was the gap between the community and the government veterinary service. There is a need to bridge that gap between the veterinary experts, the local experts and the community. There was a need for some kind of bridging- person, somebody like a community help worker, a community animal help worker etc.

Rhamsy Chuol, Gambela, Ethiopia: It is not just a matter of adding another link in the chain. Trust has to be built between these two groups of people. At the moment the traditional system and the formal veterinary system do not touch each other; they are miles apart.

Scoones: The second gap is that the research is very far away from the pastoralists facing livestock disease. The big gap between the research where they thought there was a lot of very good research internationally and nationally on the subject but even the NGOs and the government did not know about it. This is a matter of getting the

researchers rights down to the local area not just running back to their laboratories or running back to their university, but bringing the results back so that even the NGOs and government can use the results.

The third gap was the distance between the licensing board, the ability to regulate drugs, and the actual practice of marketing. Since most people get the drugs for the animals through informal markets, from vendors and traders, there is a role of improving local knowledge about the quality of drugs, to be able to check the quality of drugs and so on. If we assume that formal regulation from Addis Ababa and from the Licensing Board is not really going to make a difference in South Omo, then people need to develop their own systems locally and be assisted in training. And this is the real gap, because nobody is doing that at the moment.

There were many similarities between what you all described about innovation in your places, and many differences.

The **first** is that in many of them the formal system – that is the government, the aid agencies, the NGOs, were quite separate from the informal system of the elders and the local community. And sometimes they were even conflicting. That is one challenge – how to bring them together.

The **second** is that research, at least official, formal research from the universities or the research stations, was often quite far away. How can it be brought closer?

The **third** point is that there is a lot of reliance on NGOs for ideas and support. And sometimes this is a good thing, but sometimes this is seen as a problem.

And **finally**, in all of the examples it was the local systems, the neighbours, the elders in the area who were the most important. But those local systems, even though they were important, they were not very well linked to other areas or other people.

The overall message was that while the trees were there (the government, the NGOs, the donors) and the bees were there, they were not very well connected together and the pollination was not very good.

Nura Dida: Self-reliance is more important than looking outside. Although looking outside is not condemned as such, but looking within is more important. If your ability cannot reach a certain point, it is not bad to ask but it is not good to always look to the outside. Whatever comes from the outside is not sustainable. Pastoralists normally rely on their own system of breeding animals; that is where their prosperity is. There were times where there was no type of government, but pastoralists existed. We used to have our own medicine, and we didn't rely on modern medicine. It is good if we stand on our own feet.

Session 3: Examples of innovation

Nura Dida: Now people will speak about their experiences of innovation and how they bring change when new problems arise.

Pastoralists are knowledgeable. They have all sorts of knowledge and skills in terms of technology and also in terms of medicine and how to treat both humans and animals. We should make sure that all that pastoralists know will also be available to the facilitators and to the external supporters.

Pastoralists normally think that they are not knowledgeable. They think that knowledge only comes from the external side. We should not look down on ourselves, peoples should hear and learn from us.

Examples of Innovation amongst Somalis in Ethiopia and Kenya

The Somali from Ethiopia and the Somali from Kenya have the same culture, the same religion.

1. Most of the pastoral areas have a shortage of water. When we go back to our fathers' or grandfathers' days, they used to have boreholes, they used to have rainwater and dams. Before we never dug dams ourselves, but nowadays when we shift and settle somewhere we dig our own dams as a community.

2. The other thing we do is water trucking. Before, we never used to do that. We used to look for water for long distances. But nowadays, we dig a small dam, put a plastic sheet in it and bring water with water trucks and put it there to give all those animals water that are not able to walk for long distances without water.

3. Somalis in Liban [Ethiopia] have something called 'simple delivery kit'. Originally UNICEF supplied us a kit for safe childbirth, but it was very heavy and you couldn't use it when there was no water, nor could it be re-used. So we came up with a 'simple delivery kit', which is very light and easy to use. You can carry it and use it anywhere. It contains a plastic sheet for the woman to lie on, cloths, soap and so on. Now it is even sold in shops and women make sure their husbands buy it for them before they give birth. In Somali the kit is called *omul-od'ul*.

4. Somali women used to bring water on their back. But nowadays, they use donkey carts, so women got relieved of that.

5. Nowadays, prior to moving the animals, we go far away to survey that area. Before we used to just go.

6. We have something called '*dugsilu*' – a mobile school better than previous ones. People come and gather at one centre, bring their children together and teach Koran there. Our elders did not do that. And now, a mobile school joined them. And it is doing very well. These days, the pastoralist communities have started to hire teachers by themselves to come and teach their children.

Examples of innovation from the Ethiopian Oromo group

1. During Selassie's reign, large tracts of land in the area of Shoa where the Kereyu live were allocated out for sugar plantations, orange plantations and for wildlife. Over years and years the Kereyu tried to talk about it with the government, but there was nobody to hear them.

So they tried a different approach on how to be listened to. Many Kereyu pastoralists; young and old, female and male – all moved from that area to Addis Ababa to settle there and to be seen there. They settled in Addis Ababa for one year, and the people staying home in Fentalle and Metahara would send us food while we were in Addis Ababa. After a year, Haile Selassie came and talked to them and the Kereyu said that they would not move until they had been heard and their problem had been solved. Haile Selassie gave part of the land allocated for plantations back to the Kereyu community. That is when those that had gone to Addis went back to join the other Kereyu at home. The problem of land within the Kereyu community continues to exist and they continue to struggle to get it back.

2. In Borana and Guji Zones, there is a lot of interference to the traditional grazing system: There are farmers using the land for crops, individuals fencing certain areas and people settling at random, instead of strategically as they used to. Also, all the different governments have prohibited burning the bush at the end of the dry season. We used to do this to ensure that good grass grew during the rainy season. The policy has resulted in thick bush cover, like where we are sitting. The thick bush means that there is much less grazing and small insects like fleas thrive.

Around 3,000 pastoralists met to discuss a solution to the problem of thick bush cover. Now we are allowed to decrease the bush using fire again, though only on a small scale. At this meeting, the issues of individuals fencing off land and of farming were addressed as well and it was agreed that land will be open for public use; and that is now happening. Random settlement of people has also been discussed and now people are arranging and planning for settling strategically so that it will not interfere with grazing systems. Certain areas are now opened up for settlement, and others are being reserved for grazing.

3. Where conflict emerges among the different groups or within a group, committees have been set up consisting of elders of each clan. These elders are responsible for monitoring [inter-group] relations. This has reduced mistrust and conflict.

4. At a more general, regional level, previously, pastoralists in Oromia had no chance to regularly meet together to discuss our issues. We have now a forum which allows for elders from all over Oromia to meet. There is this organisation called OPA [Oromia Pastoralist Association], which brings all Oromia pastoralists together and takes care of issues concerning all of Oromia. We have had several gatherings, many organised by OPA where we can discuss problems and find solutions.

5. For example, pastoralist women used to look for hay only during times of stress. But we learned from gatherings the importance of forward planning. Now we cut the hay as soon as there is enough pasture and we store it. So when times get stressful, we only look for water for the calves in the enclosure. We do not have to look for hay in times of stress since we now plan ahead.

6. Because of such learning processes, we now have a women's forum to discuss pastoralist issues from a women's perspective. We contribute money to keep the association running. The money even supports women who give birth.

7. Over-stocking degrades the land and depletes the pasture fast and when a drought comes, someone with large herds can lose everything. One of the strategies confronting this [challenge] that we shared was to de-stock animals as early as possible, when they are fat and healthy. This money is used as an alternative source and is invested in construction, education of our children or kept at a bank.

Examples of Innovation from the Kenyan Somali and Boran

1. Wherever pastoralists are, they have neighbours. And when you are in conflict with your neighbours, you have a big problem. As Kenyans, we had problems of war and conflict with our neighbours. These problems destroyed our ways and affected almost every life on both sides. When the problem occurred, we called for a meeting including Ogaden, Degodia [and others]. We sat down, talked and removed this problem that existed between us. Since our meeting, we have had peace and we no longer fear grazing on the other side. We are now at peace. This was not a government initiative. The peace initiative was organised entirely by us, the Degodia, Borana and Ogaden.

2. The second issue concerns a time when the Government of Kenya put us in concentration camps because of the problems we caused. We had a lot of problems and became destitute as our animals were brought together killed by gunfire, but we also got an advantage out of it. That is when we began educating our children and they became our supporters.

If that problem had not enforced us to educate our children at the time we would not have educated them. Hussein Boru is among those who were taken to school after this problem. He is still in an advantage, linking us with communication.

Those who are educated have helped their families in many ways. The other people who did not go to school went back to herding. We have both benefits – we are still herding and our children are educated.

Examples of Innovation from the Kenyan Rendille and Gabbra

There was a time of big fighting between the Gabbra and the Rendille. As a result of that conflict, none of us had access to the good pasture and water. We didn't have access due to the fear between the two of us – not because anybody had imposed a restriction on us to not graze in the area. It is us who posed restrictions on ourselves. So we sat down and discussed and asked ourselves why can we not talk to each other?

We talked and realised that conflict and war causes disadvantages such as the inability to access the good pasture. Our animals suffered, we suffered, so we removed the barrier, shook hands and made peace. The place is now being grazed by the both of us. We are friends now. Our children love each other and they play together.

The other benefit is that after peace was made between Gabbra and Rendille, the Gabbra were practicing trade (unlike the Rendille) and Rendille had large herds of camel. So Gabbra and Rendille began to trade – Gabbra came and bought camels from Rendille, and Gabbra exchanged shoats for camels from Rendille. Since sheep and goats are easier to sell, the Rendille, who were previously short of sheep and goats, now had the chance to sell shoats to generate money to pay for their children's school fees.

To strengthen the peace, Gabbra teachers and Rendille teachers voluntarily teach children on the other side. The youth now discuss this cohesion and the communities are very cohesive. This was all brought about by this peace discussion – teaching children on the other side and trade, in addition to only sharing the same pasture. Children listen to and look at how the adults behave. If the fathers and mothers talk negatively about the other side, the children also behave this way. Now, that the adults talk positively about the other group, the youth have joined hands and love each other. This problem is history.

Innovations from Pokot, Kenya

1. In Pokot, mobility is always frequent, even during the rainy season people move. We have come to the consensus that while the rest of the animals move in search of pasture to far distances, the families and especially the elders settle with a small herd and we manage this by feeding them on hay. During the rainy season they graze like any other animal, but before the dry season, we cut hay and keep it for that particular purpose. Women used to take a small amount of hay for the calves and weak animals. Now we keep about five or ten animals close to the family. This will provide them with animal products and support the children to stay with their families and go to school. This is one way how our community can acquire education.

2. We have found that although we have small streams, we can also make some surface dams by using large stones. During the rainy season the seasonal river water can be stored and kept from flowing by ‘damming’ it, putting stones across the river. If you get somebody to give you some cement, like NGOs, you put a barrier across this stream and it will store water even for the dry season.

Innovations from Afar, Ethiopia:

In Afar, when we notice signs of disease among the animals, there is a drug we mix with water and put it into the animals’ nose. Another way we treat sick animals is to collect leaves of a certain tree and bury them in the enclosure where the animals are. When the animals spend the night in the enclosure, the buried leaves help the animal in the same way as a vaccination.

We collect leaves of around seven different trees for preventing disease. There is a type of disease that has affected us for 16 years and it occurred three times in our herds. Since we put together the leaves of the seven trees, the diseases have been reduced.

When an animal dies, we slaughter and dissect and look at the internal organs like liver, heart, lungs, kidneys etc. By looking at the organs, we diagnose and can identify the disease and then we know which plants to use for the treatment of the others.

One problem is that veterinarians in Afar Region do not want to train others. They want the knowledge to remain with them, since they make money from it. They are very few and they cannot cover all of Afar Region. Whenever there is an outbreak of disease, a lot of cattle die. This is one problem. How can the veterinarians reach across Afar Region? We are trying to convince the veterinarians to train more scouts.

[Comment from Nura Dida]

There are many people who are specialised in Rabies treatment. There are even those specialised in giving birth of animals. There are people who know how to induce a calf when it grows too big in the womb. There are people specialised in CBPP – they remove the lungs from the infected animal, pierce on this position and then fix that lung. Then the whole animal [population] is free of CBPP. There also ways when animals like camels refuse the young calves to make the mother camel to accept the young calf.

Why do those animal doctors among the pastoralists not train others? They only train their sons, not even their brothers, so that when they die the knowledge and the skills remains within the close family. Rabies is the worst amongst the animal diseases, but people still have to use medicine from traditional doctors. There are very few people who have this knowledge and skill, and we depend on those few. For example, there are only one or two within the large Boran population in Ethiopia who know about the treatment of Rabies.

There are people who can treat those who are bitten by snakes. They understand which treatment and which medicines to be given to people and animals which are bitten by snakes. They even pick them up! They know how to handle them.

Among the Borana, there are people who can take care of the puff adder. It is seen as their property. Puff adders do not bite those people and those people do not kill puff adders, they can just hold them. When there is a puff adder in someone's house, he calls the clan that takes care of these snakes.

All this is known to only a very few people. It is up to the pastoralists now to convince these few knowledgeable people so that they train others and we have a better coverage. These are examples of knowledge that pastoralists have to help themselves without referring to external support.

Innovations from Turkana, Kenya and Nyangatom, Ethiopia:

1. Traditionally, Nyangatom and Turkana used to settle in the same place as their animals and they did not consider the season, whether it was dry or whether there was rain. These communities faced many problems, such as raiding and disease epidemics. To overcome these challenges, they divided, separating the animals that they have. They divide the animals that are milking and send them to a certain place, where the elders are residing. But the majority are taken a long distance to where grass is available in order to protect animals from war, raids or epidemic diseases. The remaining animals will serve for family food. That is one innovation.

2. The second one relates to water and pasture management. Nyangatom, Turkana and Toposa used to live with their animals where all of those natural resources are accessible. There use to be a challenge that the water was not in the same place as the good grazing. So we taught the cattle to spend a day where the water was and then go to the grazing area and do without water for a few days. This is done with the objective to balance and to make the animal adapt to challenges. Teaching the animals to cope with this means that they are more resistant to water or pasture shortages in times of drought.

Nura Dida

Whether small or big [challenges] there is this indicator that people are looking towards standing on their own.

What do we need to strengthen? It is the plenary that will discuss that and come to a consensus. What I have seen from my observation is that people are not looking at external support. There are many ways of taking care of animals, for example taking care of weak animals separately from the strong animals. Besides the herbal medicine and dissecting animals to check their organs, there are veterinaries that can treat them. Other than treatment, there are even spiritual ways like reading the Koran or people coming together to pray to God. There are many ways by which pastoralists have supported themselves.

Ian Scoones

There are a few themes running through what has been presented.

1. In a number of places people are intensifying their production. As people face difficulties in finding pasture or water, we see hay-making, water harvesting and even irrigation suggested.

2. There are some cases where existing technologies have been changed and adapted and made more useful for local situations. We had the example of the delivery kits, but also the making of new types of dams using plastic and bringing in water from outside or using mobile phones for scouting or for markets. So we see the use of modern and traditional approaches together.

3. In some cases we see a whole series of new innovations happening and being unlocked by one thing happening. One of the many examples was once peace is agreed, then education can follow, new grazing systems can follow, new trading arrangements can follow and new markets can follow. Often we have to look for that key to unlock an innovation.

4. The other thing I noticed is that exchanging of ideas, getting together, talking – gathering together is really important. Innovation happens when you exchange, particularly across communities. This may be important for all groups in society. We had examples of elders, examples of women, examples of youth. But this should not just happen at points of crisis and difficulty. I think we learned that organisations bringing people together are really important in pastoral areas and that these organisations can be critical for helping, and sharing and extending innovations.

5. Finally, it is important to recognise the limits to this because there are some areas where very specialised knowledge is held by particular people. The example there is the animal doctors who did not want to break their business and share their knowledge. How do you allow a sharing of knowledge without undermining the specialisation and indeed the business of those types of people?

Session 4: The Way Forward

Nura Dida. Let us all think about how pastoralists can strengthen their voice and strengthen their resources. How can the future be better? We shall look at the future – how can we proceed? What are we going to strengthen? What are our knowledge and skills that we are going to strengthen in order to strengthen pastoralism? We shall identify issues that we will be working on in the future and think about what the gaps are, where we need external support.

Emmanual Lotim, Pokot, Kenya. We all agreed that pastoralism is a dynamic system of production. At times, when you say ‘the livestock’ you say ‘the pastoralists’. What we actually want to see are ways of making pastoralism sustainable for the future. Also, we as pastoralists must accept that there are changes and that we are subject to these changes. We are knowledgeable about our activities, about maintaining our livestock and about maintaining our livelihood. But because the world is changing, we must also adapt the new innovations that others have.

Pastoralists can not afford not to send their children to school, because if they do not, they will always be oppressed by the others, they will not be in the government, they will not be in a place anywhere. They will be following their livestock as they move from one place to another forever. Without attaining education, they will not be able to push for policies on their land.

In Kenya, 80% of land is occupied by pastoralists and 20% is occupied by farmers. The population of pastoralists is 20% of the population of the whole country. So 80% [of the population] live on a territory which is 20% [of the total]. The population is still growing. These people will at some point see that if they put some infra-structure in the drylands they can start to use them.

There is plenty of space. But where will these people go? They will squeeze the pastoralists and the pastoralists will not have the land access they used to have. We look at those things and that is why I say that we must have education if we are to compete with these people. We must be equal to fight with these other people, we shall have our own son who will go to Parliament where the laws are being made and he will argue for the equality of the pastoralist people. Unless this happens we shall be in big problems. We shall be robbed in daylight. They will come and say ‘Move, move!’ and then put in place their structures as they want to.

Admassu Lokaley, Nyangatom, Ethiopia. For us to strengthen pastoralism, we need to strengthen two things.

1. Networking amongst the pastoralists; Pastoralists should have close relations and consult each other about the way they should be. For instance, the pastoralists in South Omo should learn from the Borana, from the Somali or from the Afar. I believe that this thing would improve their livelihoods.

2. Education; Pastoralists should send their children to school. It is pastoralist children who understand the conditions and the living system of the pastoralists. For instance, they know how to treat their animals, how the animal grazes and where good grazing is found. They could tell this to the government and ensure they give attention to the pastoralists.

In South Omo, the pastoralists are in trouble now. All the land that they have been using as pasture is given to the investors and the remaining land, which is a very good grazing land, is designated as a National Park by the government. For instance, Mursi and Nyangatom are always clashing with the government due to this issue. So we need to go to school and have education to challenge the government and to find a way out of this problem.

Ugass Hamud Sheikh, Kenya: The way forward for pastoralists is;

- (1) to be organised nationally and internationally;
- (2) to create local factories to manufacture animal products;
- (3) to empower traders through loans and grants;
- (4) to create national and international livestock marketing [systems];
- (5) for pastoralists to stop conflict among themselves and with neighbours, this is the key of everything;
- (6) to educate pastoralists at their level;
- (7) to continue gathering pastoralists to create harmony among themselves whether there is a problem or whether there is no problem;
- (8) to have NGOs assisting pastoralists directly;
- (9) to train pastoralists on how to take care of their life without experts.

Utakano Mallo, Hagaremariam, Ethiopia. Pastoralists have rich knowledge and skills. One of the best indicators of our indigenous knowledge is the deep water sources that we developed centuries ago without having any technological support from the outside. I believe even scientists would be surprised to see how the pastoralists were able to develop their own infrastructures with the technology of the day. People who used to have that rich knowledge and who were capable of developing that infrastructure should find themselves now at a much better stage. But the reality is that we are not at this stage. And one of the main reasons for this are the political dynamics in Kenya over the last 100 years.

1. We used to be able to deal with animal health and disease control to some extent with our own technology and knowledge, but this hasn't progressed well in recent years. A way forward would be that traditional veterinarians or people with that knowledge and skill must organise themselves. And even those that have been trained at universities and colleges in livestock health should be organised and collaborate. It is not just the animal health experts, but others should also be able to organise themselves. Pastoralist organisations should be able to facilitate this.

2. Pastoralists are very rich, but we have not been able to organise ourselves in order to harness the national resources and make use of our wealth. There is no reason why we are unable to organise ourselves and do investments ourselves in our areas. There is no reason why people have to come from the outside and invest in the pastoralist areas and evict pastoralists from their resource basis. There is no reason why we are unable to introduce meat processing plants, dairy farm processing plants and hides and skins factories. The reason is that we are not organised that is why we have not been able to invest *in* our own resources *with* our own resources.

It is only then when we are able to organise ourselves, control our resources, invest in development of and by our own resources with our own capacity that we will be able

to change our environment and also control the market and even participate in international markets.

3. We also need an organisation that represents us at the level of the Horn of Africa, for example under the umbrella of IGAD.

Haji Kararsa Guracha, Negelle, Ethiopia. An issue that an individual person has been contemplating for a long time becomes a reality if it is shared and then it will reach many people. If we add the number of these participants together and try to put together all the ideas of this number of people, then the sum of knowledge will be very high.

The richness of our indigenous knowledge has not been adequately captured, documented and disseminated. Maybe that is one area with regards to the way forward.

Haji Kassarū Jilo, Fentale, Ethiopia. We as pastoralists used to be passive in articulating our problems. Now, our situation is improving and we are able to have our own advocacy, like OPA. But our issues and problems are far from being resolved.

We should be dynamic in a dynamic world and we should not expect solutions from the outside. We should cultivate our potentials and promote our skills and knowledge to find solutions to our complex problems. Let us use our resources, our brains, our knowledge and also our network and forum in order to promote and advance our interests. We may not get a solution in the immediate future, but let's not give up, let's continue demanding our rights. We should not be passive.

Once upon a time, at the time Ethiopia was occupying these areas, there was a man who killed 50 people. This killer was then stabbed by one of Menelik's soldiers. They started wrestling and the killer fell on the ground, with the soldier on top of him. He was almost dead, but continued to struggle with the soldier, he gripped his body and eventually managed to cut the soldier's jugular. Then he got up and removed the spear from his body. The soldier's brother arrived and when the soldier saw him, he warned him: Never ever approach this man because he is dangerous. He does not only use a spear to kill people, he [also] eats people. He will exterminate our race, our people. Please keep away from him!

So this hero, when he went back home, where he was treated and healed. Then he said something very strong to his people. He said, "Never ever give up, try to save your lives even when you are in desperate situations."

That is the saying today: One should not give up, even up to the last moment.

Comment. We are very happy and delighted that we are coming from at least two countries discussing our common problems. Whenever we get such a chance, such a forum, we emphasise the importance of sending our children to school. We also tell one another that we should convert our livestock wealth into other forms of livelihood. Some have already started practising, others have not. There is a saying in

Oromo language that ‘whether you mount a horse from the right side or from the left side, the destination is the saddle’.

If we are educated we will be able to articulate our problems and participate in development. By participating in education we will be able to do so many better things than these days, [such as] diversifying livelihoods without totally depending on livestock, and without abandoning livestock.

Comment. Once upon a time traders from France asked Ethiopia to give them a license in trading camel skins. The Ethiopian official said: ‘Well, I don’t think camels have skins. The pastoralists are like cats, they eat their meat. I don’t think camels have a skin as such.’ That shows how little informed some officials are about pastoralism. Hide is second only to meat, butt and milk in terms of direct livestock products.

I want to re-emphasise that networking is the key solution for us. As much as possible, the frequency of this kind of meetings should be more. I wish we were meeting every 2-3 months. Such kind of forums should also be able to identify people who are really concerned with issues of pastoralism (like this one hopefully has done). When these people gather, they meet and discuss issues openly and transparently like we are doing.

Malicha Loge, Head of Borana Zone Rural and Pastoralist Development Office: I understand the importance of education and I underline, like other speakers, that we have to participate in education; this is a key.

Yesterday our group discussed animal feed and range management issues. We underlined the important role that customary institutions have in improving range conditions and re-vitalising customary range management institutions. Every actor stands by our efforts and efforts of customary institutions to strengthen and promote their role in this regard.

The problem of land degradation, land over-use and the decline of rangeland productivity can be improved mainly through this bottom-up approach when the customary institutions are able to make decisions and monitor the effectiveness of those decisions. Equally, organisations like OPA have a key role. I make the request to OPA and other organisations to stand very close to customary institutions to re-vitalise their roles. That will really facilitate the government’s extension services and it will also bridge the gap between pastoralists and extension workers.

There are many factors affecting the production system in this rangeland including spontaneous farming expansion in the rangeland and villages not strategically located, as they were in the past. I want to underline that we the community and the customary institutions should be able to find solutions for this. We have to be able to restrict the extension of farming. we have to be able to re-position village sites. We have to be able to cut down these less-useful trees and bushes, and re-introduce good past such as burning the range before rainy season.

Pastoral land shrinkage is coming not only from investors, but there are also individual pastoralists who are enclosing land spontaneously. Someone has even

spontaneously fenced this very land we are sitting on. As much as big investors bring about pastoral land shrinkage, private enclosures also do the same. We have to be able to keep our eyes on these guys and try to stop that process.

We should also use the change as an opportunity to innovate some ideas and technologies. We should not only rely on the natural resources we have, but we should also be able to, for example, engage in soil and water conservation, we should also be able to plant some grass varieties and we have to be able to claim our land by planting different grass types and trees of value for livestock.

One of the problems that requires effective partnership between different actors is recurrent drought. They affect our lives and livelihoods to a great extent. Rather than passively waiting for the drought to come and pass, we have to be able to improve our information network and early warning systems. This can be done through communities, researchers, NGOs, donors and government working together to reduce the impact of drought and find sustainable drought mitigation mechanism. This needs the concerted efforts of all development actors.

Finally, with regard to peace - peace is the key, as one elder said earlier. Please do not forget that peace is a matter of primary urgency and importance.

One of the matters of promoting inter-pastoral solidarity and peace is promoting cross-border trade. Pastoralists trade across the borders between Ethiopia and Kenya. Let each one of us use these opportunities and actively participate in market areas and livestock marketing across the borders.

Mogole Haibor, Kargi, Kenya: This morning we talked about how we [Rendille] hate conflict and how we dropped the weapons and embraced peace and how that peace promoted many other livelihood activities. One option now is to leave any tribal connotation. As Ethiopians, you better regard yourself as an Ethiopian instead of always saying there is this group called so-and-so, and there is that group called so-and-so. For Kenyans, we should remain Kenyans and not identify ourselves on a regional or tribal base. And then as Africans we can look at ourselves as Africans.

We had a president called Moi. President Moi had two practices in his leisure time. One was farming and the other was practicing pastoralism. President Moi, addressing the audience, he used to tell people “Always remain the way I found you!” We learnt this message in a negative way later on. “Always remain the way I found you!” means “Let the farmers progress, and the pastoralists be doomed!”

During Moi time – we thought he was a pastoralist because he had huge herds of cattle – we kept quiet. We were not shouting for our problems then. We learnt later when Moi left and the new president came that we have been left behind. It is our time now to shout! We are shouting every morning, every evening. So please, shout much until you are heard!

Comment: There is a proverb about the hyena. When people network or exchange messages, whatever you hear you share with others, and also, whatever resource you have, you share it with your people, and there will be less disagreement. Let’s share all, both resources and information. One of the things a child can inherit from his or

her parents is education. Animals and property can be destroyed. If you are educated, your education is always with you unless you die. Let one of our key issues be education for our children.

Molu Kulu Galgalo, Bubisa, Kenya. We have been emphasising the importance of education for pastoral livelihood and for our future. But to what extent has education that we have been following, that we have been getting, that we have been attending relevant to our lifestyle, to what extent has it taken the pastoralist issues and pastoralism into account?

We have educated many people. Let's make use of the already educated ones, we have people in parliament, we have many technicians. Let's put our effort to make sure that they are made use of and let's evaluate what have they done to change our life.

If education does not focus attention on us, its significance will decrease. Pastoralist issues have to be incorporated into educational curricula. We had a meeting in March in Kenya. According to our information, there is a change coming in terms of pastoral policy and, hopefully, this policy will contribute to improving the lives and livelihoods of pastoralists.

The cost of delivery of 5 or 100 kg of maize for food aid from the source to the recipient is very high and could cover the costs for constructing a borehole for livestock in a strategic place. This could be very useful. The food that is being delivered from far distances has never been a priority and even up to now this has not changed.

Nura Dida: Thank you everybody. All of you who have talked, be thanked! The listeners are also thanked and honoured!

The emphasis is on education. Education is very important. One time when I asked a doctor from Eritrea about pastoralism, he told me that pastoralists can only get out of this problem when they are fully educated. It is true that when large parts of the population are educated it will solve problems. People are motivated by what they learn. What children learn in school about pastoralism is very negative. Even if they are educated – they are not being educated on pastoralism since the curricula is not targeting pastoralism. As a result, they get diverted from pastoralism. There are some who are struggling to talk about pastoralism amongst those who are educated. It is good if the curriculum targets pastoralism so that education is widely spread. People are employed as per their skills, if the curriculum targets pastoralism and then they are employed in that sector - that is how the educated pastoralist will help pastoralists. Whether curricula target pastoralism or not, let us emphasise and promote education. Let's struggle to have more meetings, more gatherings for networking so that we can fight for our recognition, so that we know each other and team up and have solidarity.

There are many ways pastoralists used to meet without external support, let us also use our traditional system. Let's use our money and contribute, meet and network. Let's struggle, don't just stand there and wait for external support.

Let us also promote and motivate the support of the local medicine people. If these people are generous and train others, our local situation will improve considerably.

The other issue is about cultural and traditional laws. We are still in our traditional production system. If we strengthen our system of production, no one will weaken it. Let's strengthen our ways!

There are those who get support from the government, like the farmers. If we hang on to our traditional ways, we will have ways to protect ourselves. Other than external support, solutions should come from within, like drilling boreholes. Every solution is in our hands. We cannot prosper when we are depending on external sources. Please pastoralists, stand up and stand up for your rights and make sure you are the answer to your own problems.

And Finally...

Nura Dida. We have planned and discussed many things during our meeting. What we passed through is enormous. If we share this, it will reach many. If these things are spread, if we share, it is huge. If we drop it here it will be useless. The representatives who came here were selected by their communities. The assumption of the people is that they have hope and trust in the delegates that they will take back the message. It is a waste of resources, it is a waste of efforts if the message will not be shared with the community that you came from. The thanking and appreciation of our supporters is only realised when these messages reach your community.

"Horra Bulla"